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Geneva, July 1st, 1928.

LEAGUE OF NATIONS · Health Committee

HEALTH COMMITTEE

Minutes of the

TWELFTH SESSION

Held at Geneva from April 30th to May 5th, 1928.

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LIST OF MEMBERS OF THE COMMITTEE WHO WERE PRESENT AT THE TWELFTH SESSION.

Dr. Th. MADSEN, President, Director of the State Serum Institute, Copenhagen.
M. O. VELGHE, Vice-President (*ex officio*), President of the Comité permanent de l'Office international d'hygiène publique, Secretary-General of the Ministry of the Interior and of Health, Brussels.
Dr. H. CARRIÈRE, Vice-President, Director of the Swiss Federal Public Health Service, Berne (attended the meetings from May 2nd).
Professor Léon BERNARD, Director of the Institute of Hygiene of the Faculty of Medicine of Paris, Professor of Tuberculosis at the Faculty of Medicine of Paris and Technical Health Adviser at the Ministry of Health (attended the meetings from May 4th).
Sir George BUCHANAN, Senior Medical Officer, Ministry of Health, London.
Dr. Carlos CHAGAS, Director of the Oswaldo Cruz Institute, Rio de Janeiro.
Dr. Witold CHODZKO, former Polish Minister of Health; Director of the State School of Hygiene, Warsaw.
Surgeon-General H. S. CUMMING, Chief of the United States Public Health Service, Washington, D.C.
Colonel J. D. GRAHAM, Public Health Commissioner with the Government of India, Delhi.
Dr. C. HAMEL, President of the Reichsgesundheitsamt, Berlin.
Dr. N. M. J. JITTA, President of the Public Health Council of the Netherlands, The Hague.
Professor Ricardo JORGE, Director-General of Public Health, Lisbon.
Dr. A. LUTRARIO, former Director-General of Public Health, Ministry of the Interior, Rome.
Professor NAGAYO, Government Institute for Infectious Diseases, Tokio.
Professor B. NOCHT, Rector of the University and Director of the Institute of Tropical Diseases, Hamburg.
Professor D. OTTOLENGHI, Professor of Hygiene at the Royal University of Bologna.
Dr. M. TSURUMI, Representative of the Public Health Service of Japan, Paris.
Dr. C. E. A. WINSLOW, Professor of Public Health, Yale School of Medicine; Member, Public Health Council, State of Connecticut.
Dr. L. RAJCHMAN, Medical Director, Secretary of the Committee.

At the request of Doctor CUMPSTON, who was detained, Dr. C. L. PARK, Chief Medical Officer, Australia House, London, attended the session.

Absent:

Professor G. Araoz ALFARO, President of the National Health Department, Buenos Aires.
Professor J. CANTACUZÈNE, Professor of Bacteriology and Director of the Institute of Experimental Medicine, Bucharest.
Dr. Alice HAMILTON, Professor of Industrial Hygiene at Harvard University, Boston, Mass.
Professor Gustavo PITTALUGA, Professor of Parasitology in the Faculty of Medicine at Madrid University.

The following also attended:

Dr. Ph. COPANARIS, Director of Public Health, Ministry of Health and Social Welfare, Athens.
Dr. J. SCOSERIA, President of the Health Council, Montevideo.

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FIRST MEETING

Held on Monday, April 30th, 1928, at 11.a.m.

President: Dr. Th. MADSEN.

345. Opening of the Session.

The PRESIDENT welcomed Dr. Winslow, Dr. Nagayo, and Colonel Graham. He was also glad to note the presence of Dr. Scoseria, Director of Public Health in Uruguay, and of Dr. Copanaris, Director of Public Health in Greece, whom their Governments had requested to follow the work of the Committee, in order to assure contact between their countries and the Health Organisation.

He expressed his pleasure with the election of Dr. Carrière to the Chairmanship of the Opium Committee, and with the appointment of Professor Léon Bernard to the Chair of Tuberculosis of the Faculty of Medicine at Paris. He was also pleased to inform the Committee that the mandate of Surgeon-General Cumming had been renewed for four years.

The Committee could also congratulate itself upon the fact that Dr. Rajchman had been reappointed Medical Director for a period of seven years.

The President regretted the absence of Professor Cantacuzène, Dr. Alfaro, Dr. Raynaud, Professor Pittaluga, Dr. Hamilton, and Dr. Cumpston, who was replacing Dr. Park. Professor Léon Bernard and Dr. Carrière would be at Geneva very shortly in order to attend the meetings.

346. Earthquakes in Bulgaria and Greece.

Dr. RAJCHMAN said that when news arrived of the earthquakes that had taken place in Bulgaria and in Greece, the President of the Committee and himself had considered it their duty immediately to get into touch with the sanitary authorities of these countries, in order to ascertain whether they would find the assistance of the Health Committee of service. Telegrams, which he read to the Committee, had been sent by the President and by himself. Later, the Health Section had learnt that the Health Service of the Kingdom of the Serbs, Croats, and Slovenes, as well as those of Roumania and Hungary, intended to place themselves at the disposal of their Bulgarian colleagues. Dr. Copanaris had replied that the disaster at Corinth was not so grave as to require the collaboration of the Committee. On the other hand, Dr. Kessiakoff had accepted with thanks the offer that had been made to him, and the Health Section hoped that it would be able to send to the scene of the disaster Dr. Wroczynski, who would take advantage of his journey through Budapest and through Belgrade to assure the necessary co-ordination with the efforts of the health administrations of the Kingdom of the Serbs, Croats and Slovenes and of Hungary. The Committee would be informed of the course of events.

Dr. Rajchman added that the former Epidemiological Commission had still a small balance of funds which would permit it to take the necessary action without incurring new expenditure from the budget of the Health Organisation.

The statements of the Medical Director were approved.

347. Agenda of the Session and Order of Work.

Dr. RAJCHMAN informed the Committee that it was proposed to add three new questions to the agenda:

1. The Secretariat had received on Saturday, April 28th, a letter from the Belgian Government, which had been distributed, concerning the control of yellow fever in the Congo estuary. The Secretary-General had replied to the Belgian Government that this letter would be transmitted to the Health Committee, which would no doubt place the question on the agenda of the present session.
2. Sir George Buchanan wished to make a proposal relating to chronic rheumatism.
3. Dr. Jitta wished to raise a question concerning X-rays.

Question of Chronic Rheumatism.

Sir George BUCHANAN referred to the communication which he had sent on this subject, covering the letter he had received from the President and Secretary of the International Society of Hydrology (Annex 1a). In England, as in many other countries, the question of chronic rheumatism had become specially important lately, both as regards its public health and economic aspects. In connection with this matter, the Government Departments concerned, especially the Ministry of Health, had received invaluable assistance from medical authorities, and had come to realise the advantages of the voluntary association which existed in England, under the presidency of Dr. Fortescue Fox, for the study of rheumatism. This English association

was affiliated to the International Society of Hydrologists, and maintained a periodical which was very useful, and also held periodical conferences.

Dr. Fox and Dr. van Breemen, the Secretary-General of this Society, had asked Sir George Buchanan to ascertain whether, and in what measure, the Health Organisation would be prepared to collaborate in its work. No doubt its letter had been addressed to him because the President of the International Society of Hydrologists was an Englishman, and also in view of the recent work undertaken by the British Ministry, in close collaboration with specialists, upon this question. He thought the Society worthy of every encouragement, and communicated its letter to the Health Committee in his personal capacity, but not, it would be understood, on behalf of the British Government or the Ministry of Health. As the question could not be discussed that day, he suggested that the letter of the International Society of Hydrologists should be distributed to the members of the Committee and the question placed on the agenda, so that there might be a short discussion upon it before the end of the session.

The Committee decided to place this question on its agenda.

Question of X-Rays.

Dr. JITTA said that he had already raised the question to which he now wished to refer, but that the document had been sent in error to the Cancer Commission. The problem was of great interest to the Netherlands administration. It was not necessary to recall the serious accidents occasioned by the use of X-rays, and the dangers that they presented, not only to professional radiographists, but also to persons who might be exposed unawares to the influence of the rays. There had been many cases of accidents arising from the use of X-rays for purposes other than that for which they were intended. It had also been remarked that these rays could pass through walls and through the air and act at quite a long distance from the radiological laboratory, as had been proved by an experiment recently made at Groningen. Finally, there were now upon the market portable radiological apparatus, the low price of which placed them within the reach of country practitioners, and which were generally used in diagnosis. This apparatus, although useful, might be dangerous if unsuitably employed. Dr. Jitta thought, therefore, that the Committee should consider the general rules governing the use of X-rays.

Surgeon-General CUMMING explained that he had recently had occasion to enter into communication with the Head of the Department of Electrical Research at Washington, in connection with the studies that were to be undertaken in conjunction with the standard offices with regard to the question of ultra-violet rays, etc., with a view to establishing uniformity in the methods of measurement, and to ascertaining the precautions that should be taken against the dangers attendant upon the use of these rays. Surgeon-General Cumming was sure that the services in question in the United States would be glad to take this opportunity of getting into touch with people in other countries who were engaged in research upon the question raised by Dr. Jitta.

The Committee decided to place the question of X-rays upon its agenda.

The draft agenda was adopted, with the above additions (Annex 1).

Dr. RAJCHMAN commented upon the plan that had been distributed to the members of the Committee for the grouping, according to meetings, of the various questions on the agenda.

With regard to the study of the fumigation of ships, he thought that the Committee would no doubt wish to appoint a small Sub-Committee, which would prepare a report and a draft resolution for consideration at a later meeting.

He drew the attention of the Committee, in particular, to the rural hygiene interchange, and said that the Health Section relied upon the discussion that would take place upon this subject for directions from the Committee concerning the organisation, in the future, of interchanges of this type.

The proposed plan of work was adopted.

Upon the proposal of the PRESIDENT, *the Committee decided that the Sub-Committee for the study of the fumigation of ships should be composed as follows:*

Surgeon-General CUMMING (Chairman)
Sir George BUCHANAN
Colonel GRAHAM
Dr. JITTA
Professeur NOCHT
Dr. PARK
M. VELGHE.

348. **Decisions of the Council of the League of Nations.**

(*a*) Report of M. Adatci, approved by the Council on December 7th, 1927.
(*b*) Communication of the Minutes of the meeting of the Council of December 7th, 1927.
(*c*) Development of the work of the technical organisations in Latin America.
(*d*) Increase in the subsidy of the Rockefeller Foundation for the interchanges to take place during the year 1928.

Dr. RAJCHMAN explained that the Council had, at its last session, in addition to examining and adopting as usual the report presented by one of its members upon the work of the Health Organisation, discussed that report and had decided that the Minutes of the discussion should be specially communicated to the Health Committee.

With regard to the arrangements in virtue of which the schools and study centres about to be instituted in the Argentine and in Brazil might be placed under the auspices of the League of Nations, the Medical Director said that the Secretary-General had forwarded to the Committee the letter from the Brazilian Government. The Committee might profitably examine this question in connection with Item 5 of the agenda: "Collaboration with Latin America".

At the same meeting, the representative of Cuba upon the Council had suggested that the Health Committee should study the means of extending its collaboration to the health administrations of the Latin countries of North America. This question might be examined at the same time as the preceding one.

The Committee might take note, during the meeting, of the financial question submitted by the representative of Cuba at the Council meeting of March 5th, 1928.

Dr. Rajchman's suggestions were approved.

349. **Epidemiology of Undulant Fever: Communication by the President.**

The PRESIDENT explained that surprise had been caused in Denmark by the discovery that this disease, due to *B. abortus* (Bang), was much more widespread than had been supposed. A note upon the question would appear in an issue of the Bulletin of Epidemiological Information, to be distributed within the course of a few days to the members of the Committee[1]. At the Serological Institute of Copenhagen, Dr. Kristensen had examined the blood specimens that had been sent to that Institute for research work upon typhoid and paratyphoid, and his studies which extended from April 1st, 1927, to April 1st, 1928, had covered 2,500 specimens obtained from some 2,150 patients. The sera of 222 of these patients had given, with *B. abortus*, characteristic serological reactions, at least in dilution of a hundredth part.

The President commented upon the facts given in the issue of the Bulletin of Epidemiological Information to which he had just referred. The various control tests that had been made had confirmed the specific character of the serological reaction of *B. abortus*. The distribution of the cases observed was of particular interest. Regarding 209 persons, whose sera had given with *B. abortus* a serological reaction, the following information was available with regard to the probable source of infection:

From cattle: In towns, 19 men, 0 women; in the country, 37 men, 5 women.
From cattle and milk: In towns, 3 men and 2 women; in the country, 47 men and 8 women.
From milk alone: In towns, 24 men and 19 women; in the country, 17 men and 8 women.

No instance of more than one case occurring in the same family had been recorded, and the existence of the disease did not appear to have been localised in any particular part of the country. A chart, appended to the issue of the Bulletin, showed the distribution of the domiciles of 212 patients. From the fact that a whole group of persons, none of whom had had any contact with cattle, had been infected, it had been concluded that the source of infection must probably have been in the milk in its natural state. There did not seem to have been any abnormal epidemic among cattle, and it was therefore supposed that the human cases were not more numerous than before, but that febrile cases of this kind had not hitherto been diagnosed.

The grouping of the patients according to age had shown that no case had occurred below the age of eight years. It could also be stated that no case had been noted in the hospitals and children's homes of Copenhagen or in other places where unboiled milk was consumed in large quantities. The fact that men between fifteen and forty years of age had furnished the great majority of the cases was a characteristic feature. On the other hand, no such characteristic distribution according to age had been noted in the case of women. This observation was particularly curious in view of the fact that, at the present time, women were supposed to drink more milk than men.

The malady had already been observed in the United States, in England and in Germany, where, however, it was considered as a curious fact occurring in isolated cases. It now seemed clear from the studies made in Denmark that this disease was not a mere scientific curiosity but a frequent malady worthy of study, since more than one-tenth of the blood specimens sent to the laboratory of Copenhagen had given positive results. The disease was not very malignant, since it had caused only four deaths in more than 200 cases, but it was very fatiguing, continued for several months and visibly diminished the capacity for work of those who were attacked by it. It would seem that the more the attention of the authorities was drawn to this disease, the larger would be the number of cases of undulant fever observed.

As regards treatment, in several cases serum against undulant fever had been administered with uncertain results. Treatment by vaccine, specific or non-specific, seemed more efficacious.

Surgeon-General CUMMING thanked the President for having raised so interesting a question. A fairly serious epidemic of undulant fever had been noted in Peru in the spring of 1927. In the United States, an epidemic that had occurred in Arizona had also been studied. One of the principal evils of this malady was that the person suffering from it remained in a state of prolonged

[1] R. E. 114 (May 15th, 1928).

weakness. Surgeon-General Cumming quoted the case of a doctor who had suffered from it for seven years.

A serum had been tried, but it could not be said that the results obtained had been very efficacious.

Professor Ottolenghi also thanked the President for the very interesting facts that he had submitted to the Committee. It had long been believed that the infection of cattle produced by *Bacillus abortus* was not transmissible to man, and it had been stated that all cases of undulant fever originated in a sick man or in a sick goat, and only sometimes, in conditions which were not very clear, in other animals, including the cow. In Italy, where undulant fever was fairly widespread, the conviction had been acquired during recent years that a certain number of cases of this malady was caused by the enzoötic miscarriage of cows. Real epidemic centres of undulant fever of the Bang bacillus had even been noted in Tuscany in 1922, in 1923 and, notably, in 1924. Groups of cases of the same infection had also been recognised in Emilia and in other regions. It should not, however, be forgotten that diagnosis was made very difficult by the fact that hitherto — as had been proved also by the numerous experiments made by M. Brotzu in the Hygiene Institute of Bologna with cultures from all countries, including Germany and Denmark — there was no means of differentiating with certainty between the Bruce micrococcus and the Bang bacillus, or, more exactly, between the microbes isolated from the goat and from the cow. Consequently, in a case of undulant fever, it was believed that infection was due to one of these two germs, this theory being based essentially upon indirect and anamnestic arguments. It was in this way that in Italy and elsewhere it had finally been admitted that undulant fever could also be produced by the Bang bacillus. On the other hand, the research of M. Brotzu, which had already been mentioned, supported the theory that the Bruce microbe and the Bang microbe represented forms of adaptation of the same germ to two different animals (the goat and the cow), and that the form occurring in the goat was very probably more dangerous to man.

As regards treatment, he would say, in passing, that serotherapy and vaccino-therapy had been tried for a long time. It had appeared, however, to Italian clinicists that the best treatment was a change of climate, particularly, a transfer of the patients to high mountain air accompanied by extra nourishment and tonics. By this means, it had often been possible to cure the disease fairly quickly.

Sir George Buchanan wished to take advantage of the present discussion to point out that the inhabitants of Malta had often asked the British Government that the name of their island should not be used in the nomenclature for the designation of the disease in question. He had, on several occasions, been asked to bring this grievance to the notice of the International Health Organisation, and to ask for it to be remedied in international official documents.

Dr. Rajchman stated that, in the epidemiological publications of the Secretariat, no other expression than " undulant fever " was used.

M. Velghe said that, in Belgium, cases of undulant fever had never been observed as in other countries. The disease was unknown. Nevertheless, at the beginning of 1928, an isolated case had been noted. It had taken a long time to establish the diagnosis in this case, for no doctor had thought of undulant fever. It might well be asked whether, in the past, this had indeed been a unique case. The communication of the President seemed to show that, in certain countries, undulant fever was not known as such. Perhaps research similar to that undertaken in Denmark would show that the malady was more widespread than was generally supposed.

The President thanked his colleagues for their observations, but wished to point out to Sir George Buchanan that, in his note, only the expression " undulant fever " had been used, for, after some hesitation upon the subject, this term had seemed to be the most reasonable.

He noted, on the other hand, that Surgeon-General Cumming and Professor Ottolenghi had spoken of epidemics. This expression might be correct in the cases observed in the United States and in Italy, but, as examination of the chart appended to the Bulletin of Epidemiological Information would show, nothing approaching an epidemic had been observed in Denmark.

It was clear that treatment in high mountain air would not be possible in a country like Denmark. On the other hand, this country was not very much more extensive than Belgium and yet hundreds of cases of undulant fever had been observed there. It was probable that closer investigation would reveal numerous cases in other countries.

It might be said that wherever cattle abortion existed there were sources of infection, and this fact raised a serious problem of public health. If the sale of milk were prohibited in all farms where there had been cattle abortions, no farm would be able to sell its products. The general rule had been arrived at that the milk of an infected cow could not be used until three months after the cure of the infection.

The President said that he would give further details upon undulant fever at the next session.

Dr. Nagayo explained that in Japan several cases of cattle abortion had been observed, but no cases of undulant fever in human beings. Perhaps this was due to the Japanese habit of always drinking boiled milk and never unboiled milk or goats' milk. On the other hand, in Shantung, China, a colleague of his had said that he had noted two years ago clearly epidemic cases of infection. Although the disease in question had been undulant fever, it had at first been thought to be typhoid. Dr. Nagayo hoped that the interested institutes might be able to make an exchange of bacilli.

The President said that the Serological Institute of Copenhagen was at the disposal of the interested institutes, not only for an exchange of bacilli but even for the despatch of sera with a view to experiments.

SECOND MEETING

Held on Tuesday, May 1st, 1928, at 10 a.m.

President: Dr. Th. MADSEN.

350. Welcome to Dr. Carrière.

The PRESIDENT welcomed Dr. Carrière and congratulated him in the name of the Committee on his election as Chairman of the Advisory Committee on the Traffic in Opium and other Dangerous Drugs.

351. Report on the Work of the Cancer Commission.

The PRESIDENT welcomed Dr. Janet Lane-Claypon, who was to attend the meeting of the Committee at which the report of the Cancer Commission would be discussed.

Sir George BUCHANAN, Chairman of the Cancer Commission, read the report of the Commission (Annex 2).

The Committee would see that the Commission proposed that its work should now be extended in two main directions, occupational cancer and radiotherapeutic methods. He believed both of these proposals to be sound, and they were put forward only after the Commission had made comprehensive enquiries and was satisfied that a large measure of support would be forthcoming from those to whom it would be necessary to apply for assistance. It was understood that the lines of investigation of the proposed Sub-Committees of experts on these questions would not be confined to conditions in the countries from which these experts came. The Sub-Committee in each case would be a body chosen for its expert knowledge rather than as being representative of nationalities, and it would include in the scope of its work all regions and all institutes whose experience promised to be of assistance to the Commission.

With regard to the enquiry into radiological methods, it had sometimes been suggested that it would be inadvisable for the Health Organisation to undertake investigations into the treatment of disease. He gave reasons, however, for considering that the question of radiotherapeutic methods was an exceptional case.

At the last session, Professor Léon Bernard had suggested that a conference of cancerologists should be convened to advise as to the studies which they considered necessary from an international standpoint. Professor Bernard was not able to be present that day, but he had attended a meeting of the Commission at the end of the previous week, and had agreed to the terms of a communication to be sent to cancerologists in order to elicit their views on the question of a Conference, and upon the subjects which should be considered at such a Conference, if it were held.

He requested the Committee to ask the members of the Italian group to accept its thanks for the statistical work that they had now completed and reported upon and that it should take note of their proposals for special work on constitution in relation to cancer. The report also proposed that Dr. Hamel and Dr. Nagayo should be added to the members of the Commission, and he hoped that they would be willing to assist.

The PRESIDENT thanked Sir George Buchanan for his interesting report and for the interesting proposals made by the Cancer Commission. He wished also to ask the Italian group to accept the thanks of the Committee. He was sure that his colleagues would agree to the immediate adoption of the proposal that Dr. Hamel and Dr. Nagayo should be asked to participate in the work of the Commission.

Dr. LUTRARIO thanked the Chairman of the Cancer Commission and the Chairman of the Committee for their kind reference to the members of the Italian group. He would draw special attention to Chapter III of the report of the Cancer Commission concerning the proposals made by the Italian group regarding the investigation of the incidence of cancer from the point of view of constitution. This question had a general and a special aspect. In the first place, it was connected with the investigations regarding the radiotherapy of cancer and regarding occupational cancer undertaken with a view to obtaining data on the question of constitution. Secondly, it covered a general investigation of the relations between cancer and the constitution.

Dr. Lutrario pointed out that the Italian group had submitted a final report consisting of an introduction drafted by Dr. Lutrario himself, which gave a general outline of the work accomplished during four years of research, and a series of special chapters on cancer of the breast, cancer of the uterus, anatomical pathological research and research into the field of demographic statistics. Finally, there was a monograph on the regional differences in the incidence of cancer. The authors of these monographs were the members of the Italian group, namely, Professors Pestalozza, Fichera, Dionisi, Niceforo and Giardina. The report further referred to a small control enquiry recently made on the same lines as other enquiries carried out in the Netherlands and in England.

It had mainly been the results of this control enquiry which had caused the Italian group to make a formal proposal that the possible connection between cancer and the constitution should be investigated. The enquiry had covered the cases of 200 women with cancer of the breast and 200 women free from this disease. It had been very rigorously carried out and had demonstrated that there were marked differences particularly as regards constitution and morphological types. This enquiry, which had been too restricted, did not make it possible to draw conclusions; it, however, provided food for thought.

A few years ago medical doctrine had been completely dominated by questions of general etiology and pathogeny, based upon the results of bacteriology and of the laboratory, and " individual peculiarities ", the proper and constitutional reactions of the individual, were placed in the background. At present, individualism or " personality " held the field, and to such a degree that it was difficult to find the line of demarcation between the past " exogenism " and the modern " endogenism ". In Italy, consideration of the subject from this new standpoint had originated in the school of Achille di Giovanni. This research had been continued by Professors Viola, Pende, Fichera, etc. At the same time, in France, the old school of Bouchard followed the same line of thought, and the modern German school was directed by Krauss and Martins in accordance with much the same ideas.

This new orientation, and all the series of elements bearing upon the question, as well as the results of the research in this field, had caused the Italian group to press its suggestion. These considerations might, in the first place, be classed in three groups:

1. The frequency of re-appearance of the disease, of metastases and of dissemination after an operation.

It had been remarked that the permanent and distant results of surgical treatment were, in many cases, other than those which might justly have been expected. The following dilemma presented itself. Should the persistence of proliferations be attributed to the unlimited powers of multiplication of the cell, or to the diminution of the resistance of the organism to this multiplication?

2. The appearance, sometimes multiple and synchronous, of primitive tumours affecting the same organ, or of growths in different localities.

In this case it might be asked: What was the reason for the multiplicity of these tumours when a local cause — for instance, a traumatism — acted upon one part of the organism and not upon the others in which the cancer had shown itself?

3. Heredity.

It frequently occurred that, in several successive generations, members of the same family were afflicted with cancer. He would cite the enquiry undertaken in the Netherlands, the first results of which were known, results which were suggestive enough with respect to heredity. Experimental research was also being made upon this same subject in English and American laboratories. A study had been made of the descendants of rats and of mice originating from families of rodents affected by spontaneous tumours of the breast, and generations had been found in which the proportion of tumours of the breast sometimes reached 16 per cent. These experiments of Lœb coincided with those that had been made in Italy.

In addition, there was a long series of experiments in connection with tumours caused by tar. It had been seen that deep and disseminated lesions occurred in the organs of tarred rats long before the appearance of the tumour. It had also been seen that virulent cultures which had given from 8 to 12 per cent of metastases among non-tarred animals gave a much higher proportion among tarred animals, a proportion which might amount to 25 or 30 per cent and even more. It had also been seen that animals which were immune to a very virulent culture became receptive after one or two months of cutaneous treatment.

How could the results of all these observations be explained without admitting that in this case there was probably a reduction in the power of resistance of the organism ?

As regard predisposition and resistance resort could be had to statistics. It would be seen that 0.5 or 0.7 per cent of the tumours occurred in early life, while the greater number of cancers developed at an advanced age. One might be led to believe that youth might be considered as a biological state offering great resistance to cancer, and that old age alone was a biological state predisposed to cancer. In support of this hypothesis, it was to be noted that certain extraneous factors which acted in youth as well as in mature age (traumatisms and parasites) gave rise to a tumour in old people and spared the young.

Why was there this difference?

If the organs of the young were examined, it would be seen that the liver was endowed with a very great hæmatopoietic activity, that the thymus gland was well developed, the spleen very active and the bone marrow red. But, as old age approached, these characteristics changed. The organs underwent profound modifications of structure (atrophy, involution, etc.).

Turning to more advanced research, there were the very interesting experiments of Freund, Kaminer and other doctors. These experiments had proved that the serum of young persons — from 15 to 20 years of age — possessed a lytic power capable of causing the breaking-up of the neoplastic cell. This power amounted to 80 or 90 per cent; that was to say, it caused, during a fixed time, the disappearance of 80 to 90 cellular elements. At from 40 to 45 years of age, this power was reduced by about one-half. On the other hand, if the serum of an old man (alytic serum) were added to the serum of a young man, of which the lytic power had been previously determined, it was found that the loss of lytic power was proportional to the quantity of alytic serum added. All these observations, of which he had spoken only briefly in order not to take

too much of the Committee's time, showed the considerable part played by the organism in the appearance of tumours, thanks to certain of its inhibitive or stimulant organs.

In connection with the enquiry that it was proposed to undertake into occupational cancer, Dr. Lutrario wished to recall the research work of an Englishman — Scott — concerning the cancer of workmen dealing with paraffin oil. This research had given prominence to the importance of the constitutional state, congenital or acquired. Colonel Smallman's memorandum, which had been communicated to the Committee, proved that certain kinds of occupational cancer occurred almost exclusively among old workmen after about forty years' work in the factory.

As had been said in the statement of its motives that had been sent by the Italian group, this group would take a very great interest in examining questions of constitution. It might eventually study differences in the incidence of cancer, for instance, in Ravenna and Ferrara, two neighbouring towns which had the same habits and customs but which presented, nevertheless, a very different rate of mortality from cancer. The rate at Ferrara was about half that at Ravenna.

These were the elements that justified the Italian proposal, and the Italian group hoped that this proposal would be favourably received by the Committee.

In conclusion, Dr. Lutrario wished to thank Dr. Nagayo for supporting the proposal of the Italian group and for undertaking to carry out in Japan an enquiry similar to that being conducted in Italy. He ventured to hope that the work done in the matter of constitution might give results which would lead to similar enquiries in other countries.

The PRESIDENT thanked Dr. Lutrario for his admirable statement on the pathology of cancer. He hoped that he would help the Committee to ascertain those questions of international research which could be co-ordinated.

Dr. JITTA paid a tribute to Sir George Buchanan for the manner in which he had presided over the work of the Cancer Commission. This work had been more difficult than that done at previous sessions. He would also congratulate Sir George Buchanan on the report of the Cancer Commission, which was his own personal work.

It had been impossible, unfortunately, for Dr. Deelman to attend the meeting of the Cancer Commission. He was, at the moment, conducting an investigation in the Netherlands into the question of heredity. Certain figures obtained by means of this investigation had already been quoted by Dr. Lutrario. There were still very few of such figures, and it was to be hoped that more would be obtained. Those conducting the investigation had asked for information from Dutch doctors, and had given them two cards, one concerning the ancestors of persons suffering from cancer, the other concerning the ancestors of persons not suffering from the disease. It was to be hoped that investigations might be carried on to a further stage later, and thus furnish more accurate figures than those at present available. If the investigation succeeded, it was also to be hoped that other countries would help by undertaking similar research. Dr. Jitta had been glad to learn from Dr. Nagayo that, in Japan, a great deal of interest was being taken in heredity and that similar enquiries were being carried out there.

Dr. NAGAYO was of the opinion that the proposals of the Italian authors to investigate the constitutional factors in the development of cancer were of importance as well as of interest. The experiments that had been carried out in the Institute that he represented, with a view to inducing experimentally tar cancer, following the well-known method of Professor Yamagiwa, had disclosed the fact that experimental cancer could very easily be produced in black mice, whereas it was difficult to obtain a successful result with white mice. This fact could be regarded as demonstrating experimentally the constitutional factor in cancer etiology.

He realised that it would be of interest to study the question of occupational cancer with a view to international research. He would also welcome an investigation of the incidence of cancer in the various organs of the body and in various places in different countries with reference to the general living conditions and especially to the methods of nutrition. A few years ago Dr. Fujimaki and Dr. Kimura had reported in Japan on cancer of the stomach introduced experimentally in rats supplied with food which was deficient in vitamin A. Their discoveries had at first seemed to be a little strange, but they were now convincing, as Professor Ogata, a member of the Institute which Dr. Nagayo represented, had reached the same result. It was even more interesting that Dr. Neyema, another member of the Institute, had produced cancer of the stomach in a rat by feeding it with food of high vitamin A content. Professor Kimura had stated at the last Congress of the Japanese Society for Cancer Research that not only could he confirm the discoveries of Dr. Neyema, but that he had also found that a diet composed of butter and cod-liver oil, and also of butter and Japanese wine, caused a most markedly typical growth of the epethelial cells of the stomach, and sometimes cancer. In view of these discoveries the Japanese Society for Cancer Research had decided to continue the studies on these lines and he would be very glad if scientists in other countries would interest themselves in this problem and would supply data for comparison with the discoveries of the Institute.

M. VELGHE agreed with the last proposal of the Cancer Commission, to the effect that two new members should be appointed, Dr. Hamel and Dr. Nagayo.

He had been impressed by the unanimous opinion of the members of the Cancer Commission, as well as by the speech of Dr. Lutrario. He hesitated, however, to agree with their views, not because the questions submitted by the Cancer Commission, and its proposals, were not interesting and did not merit a solution, but because it was open to question whether it was an opportune moment for the Health Committee to undertake an investigation into all these questions. As far as he was concerned, M. Velghe was somewhat frightened at their scope, and wondered where

the matter would end. He was sorry to make such reservations, and perhaps the ensuing discussion would put an end to his hesitation. He was not, for the moment, entirely convinced by what he had heard and by the report of the Chairman of the Cancer Commission.

Sir George BUCHANAN said that he believed that he was in close agreement with M. Velghe upon this matter. It was essential that the point of view of the Commission should be a practical one. The Commission had to survey the whole field, but must restrict its actual enquiry to matters that affected the concrete needs of health administrations, which were being more and more pressed to do something to diminish the great mortality from cancer, to matters which required international comparison and to matters with which it was capable of dealing in a reasonable time. The position raised by the debate was much the same as it had been at the last session, when it was suggested that cancerologists should be consulted as to the selection of the subjects to be investigated. Then, as now, mention was made of the desirability of further enquiry into the localisation of cancer as affected by the conditions of life in different countries and the question of race, as also into the question of heredity and that of laboratory work on the propagation of cancer. He himself was somewhat alarmed at the vastness of the field of enquiry which would be entered upon if all these proposals were taken up by the Commission.

In regard to the question of constitution in relation to cancer, it should be observed that the Commission, while realising its importance, had in fact been a little chilly in its reception of the proposals of the Italian group. This group had supplied a very interesting account of the position, which the Commission desired to disseminate as widely as possible, and it would be of great value if the Italian group would itself pursue its investigations on these matters and communicate its results to the Commission. The Commission was not, however, prepared to recommend, at this stage, that a body of experts should be set up for the study of constitution in relation to cancer. As stated in the report, the present aim of the Commission was to concentrate its work on two points, namely, occupational cancer and radiological methods. All relevant information on these matters would probably be collected and analysed within a reasonable time, and would lead to results that could not otherwise be obtained and which would be specially valuable for administrative work in combating cancer mortality. It was essential to discriminate between points of wide interest and points of practical application.

Dr. CARRIÈRE thanked Sir George Buchanan for his excellent report, the conclusions of which he was ready to accept. Like M. Velghe and Sir George Buchanan himself, he had been somewhat frightened at the extent of the investigations conducted by the Cancer Commission. It was clear, however, that, when a Committee entered a field which was so vast and so little explored, it was difficult to decide where to stop. He thought, nevertheless, that the investigations could not be extended indefinitely. If the Committee limited itself to the points mentioned in the report, useful results would doubtless be obtained, particularly as regarded occupational cancer.

Dr. Nagayo had referred to the connection that might exist between cancer and vitamins; this question was of particular interest to Dr. Carrière. One of his co-workers was, at the moment, making personal researches of this kind, and appeared to have obtained positive results. It was known that spontaneous cancer did not occur in the guinea-pig. Dr. Carrière's colleague, however, had been able to introduce cancer of the lung in a guinea-pig, by means of food containing no vitamins. It was obvious that conclusions could not be drawn from a single case. This case, however, at least showed the interest which investigations of this kind could arouse for they might make it possible to throw a certain amount of light on the causes of the variations found in certain countries, especially in Switzerland, in the regional distribution of cancer. Some attributed these variations to elementary factors in the action of which vitamins might play a part. Consequently, Dr. Carrière expressed the hope that the Commission would discuss whether it would be possible to encourage these investigations by some means or other. He did not think that the Commission itself could undertake investigations of this kind. It could perhaps support laboratories and research workers who were carrying out such investigations or who would be ready to undertake them in certain countries.

With regard to hereditary cancer, Dr. Carrière said that he was at the moment engaged in examining, from this special point of view, an investigation carried out some years previously in Switzerland into cancer of the breast. Such results as he had been at present able to obtain were not, unfortunately, of a kind likely to throw any very great light on the question of hereditary cancer.

Dr. RAJCHMAN would try to interpret the resolution which the Committee would probably wish to adopt when approving the report of the Cancer Commission. Investigations into cancer had already given rise to several discussions in the Committee. He thought the report contained two definite proposals:

1. As far as occupational cancer was concerned, the Committee should remember that the investigation of this question would, in any case, have been taken up by the International Labour Office. That organisation and the Health Committee could mutually congratulate themselves on the wide measure of co-operation resulting from such an investigation. It would seem to be possible to complete the investigation in question in a year or eighteen months at the most. It should end by a general report closing the enquiry.

2. There was a preliminary investigation into the treatment of cancer by radium. Personally, the Medical Director admitted that, when the Cancer Commission had examined this question for the first time, he had doubted whether the Health Committee should undertake an investigation into methods of treatment. On the other hand, he had been struck by the unanimous desire of clinical workers in various countries — who in the ordinary course of events were so opposed to any interference in their affairs on the part of health administrations — that the Cancer Commission

and the Health Committee should intervene in order to settle the question. It was, however, quite clear that, in their view, this intervention should come to an end within a fixed period of time.

In passing, the Medical Director wished to explain, with reference to page 10 of the report of the Cancer Commission, paragraph 3, that there was no question of examining the results over five years to come but of collecting the results of observations made during the past five years. As far as the date on which the investigation could end was concerned, the Committee should guard against all possible misunderstandings.

The Medical Director interpreted as follows the proposals of the Cancer Commission in regard to the investigation into radium. A questionnaire would be prepared and sent to all the clinics. When the replies had been received, a report on the whole question would be prepared. At the same time, the Sub-Committee to be appointed would be consulted on the three points mentioned. In this case, also, there was no reason why the work of the Sub-Committee should not be completed in a year's time. The Medical Director did not think that, in approving the report of the Cancer Commission, the Health Committee ran the risk of creating a permanent committee of radiologists. Action by the Health Committee would be confined entirely to this one point and would cease in quite a short time.

There remained then the special investigations, which were of a very varied kind, as could be seen from the observations of Dr. Lutrario and Dr. Nagayo. In this connection, Dr. Carrière had given an interpretation of the position which Dr. Rajchman thought of great interest. It was clear that these investigations would be carried out, not by the Health Committee nor by the Health Administrations, but by scientists and health institutions throughout the world. Whatever resolution were adopted by the Health Committee, these investigations would continue. It would appear, however, that, in this matter also, it would be useful to review, from time to time, the actual state of knowledge at a given moment, and it would be very useful for the Committee to take a note of the work accomplished in the various countries. If a national group of workers existed in Italy, if a national committee were to be established in Japan, the Health Committee would draw nothing but profit from a report submitted on the responsibility of the national committee concerned. The Medical Director did not think that the proposals of the Cancer Commission went further than this, or that the Health Committee was asked immediately to undertake a whole series of experimental investigations, etc.

To sum up, the report could be reduced to two proposals. One concerned the investigation into occupational cancer, the results of which would be included in a report to be presented a year or eighteen months hence; the other a single intervention in the vast field of radiology and of clinical medicine, which would probably result in recommending more uniform methods for the use of radium in clinics and constitute an authoritative reply on the three questions enumerated in the report. The Health Committee would also take note of the work to be undertaken by the national groups in touch with the Cancer Commission, in order to be able, at a given moment, to discuss it and communicate it, if necessary, to the Office international d'hygiène publique. If this were the meaning of the proposals made by the Cancer Commission, the Medical Director would not hesitate to accept them.

Dr. LUTRARIO desired to add certain explanations to what had just been said concerning the mandate to be entrusted to the Cancer Commission to undertake investigations in special fields. He thought that the extension to which reference had been made was more apparent than real, for it was the intention of the members of the Cancer Commission that the investigations should be developed more in depth than in breadth. Up to the present, investigations in Italy had been localised according to various points of view: statistical, epidemiological and anatomo-pathological. At the moment, preparations were being made in that country to study questions limited to a special field.

Nothing could be done in Italy in so far as occupational cancer was concerned, for only two cases of it had been observed. As regards radiology, the Italian group had offered the spontaneous co-operation of four centres. In regard to the large question of constitution, the investigation would be limited to two towns, where an endeavour would be made to provide means to carry out a detailed investigation.

Dr. Lutrario could not entirely agree with the explanations of the Medical Director, who took the view that the Health Committee should confine itself to taking note of the work to be undertaken and adopt, in consequence, a passive attitude. What the Italian group desired was to receive a definite mandate to carry out the proposed enquiry, for it was the intention of the members of the Cancer Commission, following on the results obtained in Italy, to extend the investigations to other countries. From the practical standpoint, investigations into the question of constitution and cancer were as practical as those in connection with occupational cancer and radiotherapy of malignant tumours.

Dr. TSURUMI, with regard to the mandate of the Cancer Commission, was in favour of an investigation of the problem of constitution and of predisposition. This was a very important question, which Dr. Lutrario had raised in the Cancer Commission. Dr. Nagayo had agreed to start an enquiry in Japan similar to that now being carried on in Italy. With regard to certain of the observations of Dr. Carrière, Dr. Tsurumi pointed out that, when in Berlin in September 1927, he had learnt that, in a laboratory in that city, Dr. Hagen had also succeeded in producing cancer in a guinea-pig by giving it food containing no vitamins. Professor Saiki would certainly be happy to learn that his work had aroused attention in other countries.

Dr JITTA was in favour of an investigation into radiotherapy. The excellent results obtained in large clinics were well known, as also the unfortunate results obtained in small clinics. He thought that, after what had been said and after the explanations given by the Medical Director, hesitations such as those shown by M. Velghe would have disappeared, and that the Committee could come to a decision.

The PRESIDENT thought it important to state clearly the extent and the nature of the research work that the Committee was empowered to undertake. It had been stated, when the Committee had been formed, that it should focus its attention upon questions which were capable of a direct solution, in order that it might frame definite recommendations for presentation to Governments and to health organisations. Two questions, therefore, were before the Committee: (1) To what extent would the League be prepared to provide money for activities having no directly practical aim ? and (2) To what extent would the Committee, in suggesting an enquiry into a theoretical question, be able to restrict itself to practical considerations? For his part, he thought that the two proposals contained in the report were practical ones, capable of producing good results; on the other hand, if the Committee discussed theoretical matters, it would tend to become a research body and would thus be diverted from the objects for which it was created.

Sir George BUCHANAN thanked the Committee for the attention that it had given to the report. The discussion that had taken place would have enabled the members of the Committee to realise that the task of the Commission had not been easy. The Commission had endeavoured to steer a middle course between the two extremes that had been illustrated in the course of the discussions, and, judging from the observations that had been made, he thought he had reason to believe that it had been fairly successful in doing so. He agreed with the Medical Director that the recommendations that had been made to the Committee might, if adopted, lead to their ultimately undertaking or co-ordinating research, if it should prove desirable, but he did not think that it was for the Commission itself, with its present knowledge, to undertake research in regard to constitution upon the lines that were being proposed in Japan and in Italy.

Dr. Lutrario had asked whether the Italian group had a mandate from the Committee. It certainly had a mandate in the sense that the Committee cordially welcomed the proposal that it should continue its enquiries, the value of which the Committee fully appreciated. The Italian group was asked to go ahead and communicate the results obtained. These Italian enquiries would not, however, be carried out by or for the Cancer Commission itself, with the aid of subsidies from the health budget, as had been done, for example, when specific enquiries were undertaken on a pre-arranged plan in the Netherlands, Great Britain and Italy regarding cancer of the breast and uterus.

He agreed with the President that it was difficult to define the point when the aim of an enquiry ceased to be practical. He did not think, however, that the enquiries he had proposed could be indicted on this score.

Dr. LUTRARIO noted with great satisfaction what the President had said regarding the nature of the investigations which the Health Committee should undertake. Theoretical research should be completely abandoned and the Committee should confine itself entirely to the practical field. What the Italian group proposed was, however, entirely practical. He himself had given an explanation of its proposals in order to show the reasons which had led the Italian group to make them. This group, however, intended to confine its researches to the two towns which he had mentioned. Having said this, Dr. Lutrario agreed, to a large extent, with the explanations of Sir George Buchanan; he wished, however, that the Commission should be given a definite mandate. In his view, this question of the mandate was of very great moral importance which he could not forgo. On the other hand, the Italian enquiry must not be considered to be purely national in scope, but rather to have an international character. This was so, not only because it would be extended to other countries if the result were satisfactory, as had already been said but, above all, because an endeavour would be made, in the enquiry on radiotherapy in connection with cancer and occupational cancer, to obtain data relating to the question of constitution.

As regards the enquiry into constitution in its relation to cancer, therefore, he considered the words of the report of the Cancer Commission to be an individual mandate, a mandate given to Italy to continue to collaborate in the enquiry concerning cancer.

Sir George BUCHANAN agreed with Dr. Lutrario.

The Commission had agreed and stated in its report that the enquiries made as to occupational cancer and radiotherapy should, so far as possible, take account of constitution in relation to cancer.

The report of the Cancer Commission was adopted.

352. **Report on the Work of the Smallpox and Vaccination Commission.**

Professor Ricardo JORGE, Chairman of the Smallpox and Vaccination Commission, read and commented upon his report (Annex 3). He asked the President to open the discussion on Chapter I of this report concerning the enquiry into the frequency and characteristics of smallpox in the various countries of Europe, as well as on Resolution No. 1, dealing with the same point.

The PRESIDENT, on behalf of the whole Committee, thanked Professor Ricardo Jorge for his report. He called on the Committee to discuss Part I.

Dr. LUTRARIO wished to summarise the reply of Italy to the questionnaire circulated to the various Governments. This reply, for a reason of which he was ignorant, had not yet reached the Secretariat. One of the fundamental measures existing in Italy was vaccination, which was compulsory in the first six months of existence. It was also compulsory at the school-age, that was to say, at eight years old, as well as in the case of soldiers and the militia. The number of annual vaccinations could therefore be put at about two million. He emphasised this point because, as was stated in the report, despite the large number of vaccinations carried out in Italy, no single case of post-vaccinal encephalitis had been discovered, although the attention of doctors had been drawn to this possibility. In 1926, 112 cases of smallpox had occurred in 69 communes; in 1927, 59 cases in 41 communes. Two small epidemics had occurred — in Genoa, 21 cases; in Rome, 12 cases. The Italian Health Administration had been unable to furnish the data asked for in each case because it had been too late to collect them. It had, however, sent a circular to the various doctors asking them to fill up a special model card for all cases of declared smallpox, which meant that, towards the end of 1928, data would be available on the cases of smallpox which might have occurred. These results would naturally be at the disposal of the Health Committee.

Dr. JITTA apologised for not having forwarded to the Secretariat the report on the Netherlands. This report contained nothing of special interest. Sporadic cases of smallpox had occurred in the last few years and there had been a slight threat of an epidemic towards the end of 1926. The most striking fact was that the Netherlands, as well as Belgium, had remained, he thought, comparatively immune, despite the fact, so to speak, that they were neighbours of England and France.

Sir George BUCHANAN thought that the Committee owed its thanks to the Chairman of the Commission who had so thoroughly studied this subject in all its ramifications.

With regard to the first proposal, the collection of information upon the incidence and character of smallpox, he recalled that the International Sanitary Convention of 1926 placed special duties on the Office international d'hygiène publique in relation to smallpox, and that all epidemiological facts in relation to that disease were of interest to that organisation. The report of the Commission which was a guarded and cautious summary of the information obtained, would be of much use to the Committee of the Office. The subject needed much caution and review of collected facts over considerable intervals of time: *obiter dicta* about the present types and behaviour of smallpox throughout the world, however tempting, were liable to be dangerous from the administrative point of view, especially when they came with the authority attaching to the international health bodies at Geneva and Paris.

He thought, therefore, that, for the present, as much had been said as was desirable upon a disputed question which needed further study. He agreed that the Epidemiological Intelligence Service could usefully be asked to continue to obtain material for discussion, drawn from study of the isolated outbreaks of smallpox, which could be submitted to the Smallpox and Vaccination Commission at a later stage.

With regard to the second proposal, relating to post-vaccinal encephalitis, he thought that the conditions so termed were important ones that could not be ignored. Efforts were to be made to hold a meeting in August when the information already in the possession of the Committee would have increased, and when it was hoped that the report of the English Committee would be available. The Commission appreciated the information given by Dr. Hamel upon cases that had occurred in Germany.

The possibility of using vaccine lymph more dilute than that ordinarily used had been the subject of much investigation in America, and a great number of differential experiments had been conducted. This and other subjects of enquiry were included in the programme of the Commission which had been submitted by its Chairman.

The Chairman of the Commission had raised a question as to the proposal in the last clause of the summary. Sir George explained that the Commission would consult the experts, who had been of great assistance in the past in discussing these points, and would then give a full communication to the Committee of the information obtained.

The remainder of the discussion was postponed.

THIRD MEETING

Held on Wednesday, May 2nd, 1928, at 10 a.m.

President: Dr. Th. MADSEN.

353. Greetings from the First Conference of Social Workers of Czechoslovakia: Telegram from Dr. Mazaryk.

Dr. RAJCHMAN read the following telegram which he had received from Dr. Mazaryk:

" The first Conference of Social Workers of Czechoslovakia sends its most cordial compliments to the organisation which has contributed in so great a degree to international understanding in the field of social work. — Dr. A. G. MAZARYK. "

354. **Report on the Work of the Smallpox and Vaccination Commission** (continuation).

Dr. CARRIÈRE wished to congratulate in the first place Professor Ricardo Jorge for his remarkable report, and also the Health Section for the document that it had drawn up upon the basis of the information furnished by certain countries.

This report, particularly in view of the indications contained therein, showed how useful it would be to continue this line of enquiry and perhaps to enter into greater detail. A request had been made that the chart should show the proportion of vaccination among those afflicted with smallpox. Such an indication was made in the note that he had submitted to the Health Section and it seemed indispensable to have information of this nature for further enquiries. He entirely supported the conclusions of Professor Ricardo Jorge upon the first point: the Committee should have at its disposal as complete material as possible upon the present form of the smallpox epidemics, observed in the various countries and the nature of which was not yet quite clear.

Professor Ricardo JORGE pointed out that there was a lack of information regarding certain countries, notably Spain and Portugal. In order to reach conclusions which would be of value, it was essential, in his opinion, to ask for precise statistics regarding the age for vaccination and the number of vaccinations. The Health Section had already made a request to this effect and would do well to repeat it.

The Chairman of the Smallpox and Vaccination Commission then read Parts II and III of his report relating to "Enquiries as to affections of the nervous system occurring after vaccination" and to the "Further work based on the programme adopted at The Hague in 1926" and also Resolutions 2 and 3 which concluded his report.

With regard to Chapter II of the report, he recalled that an Anglo-Dutch Commission had, in the meantime, met at London under the auspices of the Health Organisation in order to try to define the histology of post-vaccinal encephalitis. Microscopic sections had been exchanged, investigations had been made and the meeting had concluded that the histology of post-vaccinal encephalitis was entirely different from that of encephalitis lethargica. Clinicists and anatomo-pathologists already knew it, although, two years ago, the predominating opinion at The Hague had been that the two forms of encephalitis—post-vaccinal and lethargica—were identical. This opinion had now changed.

Finally, Professor Ricardo Jorge read Annex 1 of his report, containing draft proposals inspired by the suggestions of Sir George Buchanan. With regard to suggestion A (2), he pointed out that the enquiry had resulted in the discovery that certain vaccine institutes continued to make use of the cultures prepared a century ago by Jenner.

Dr. HAMEL explained that the question of post-vaccinal encephalitis was of special interest in Germany for two reasons. In the first place, the system of vaccination was very extended, there being two million vaccinations each year. In the second place, the country was a neighbour of the Netherlands and of England, where several cases of this phenomenon had recently occurred. As a result of the research made in Germany, it had been found that, in the course of the last four years, only isolated cases of post-vaccinal encephalitis had occurred, four or five in Saxony and three at Hamburg. Only one case had occurred in South Germany and there had been no case in East Germany. In short, in Germany, only isolated cases had occurred at the same time as cases of other forms of encephalitis.

A Commission of enquiry had been sent to the Netherlands, where it had received an extremely cordial welcome, and Dr. Hamel wished, in this connection, particularly to thank Dr. Jitta and the Dutch authorities. This Commission had realised that the researches made in the Netherlands were conducted most carefully and gave results of the greatest importance.

In Germany a college of experts had been consulted as to whether it would not be wise in certain cases to suspend legal vaccination. The experts had replied in the negative, while recommending that the following precautions should be taken:

1. All cases of encephalitis, of whatever origin, should be notified, and should be the subject of an enquiry into their various aspects—clinical, anatomical, pathological and etiological.

2. Vaccination should be deferred in the case of a child not in good health.

3. Efforts were being made at the present time to determine a maximum virulence of the lymph; in the meantime, a lymph should be used having the minimum virulence compatible with its efficacity.

4. All legal vaccination should be suspended in a district where cases of encephalitis had occurred.

The experts had thought that this phenomenon was perhaps of a transitory nature and that it would disappear, as had been observed in the case of other diseases of the central nervous system that had broken out sporadically.

Special attention should be drawn to the fact that the encephalitis in question sometimes occurred after infectious illnesses, such as measles, scarlatina, whooping-cough, influenza, etc., and that these illnesses were probably followed by encephalitis even more frequently than was vaccination. Further, it seemed that the true cause of the malady was not the virus of the vaccine itself, but a diminution in the immunisatory power occurring at the same time as an increase in the activity of another virus. In these conditions it would be wiser to abandon the term "post-vaccinal encephalitis", which placed a weapon in the hands of the adversaries of vaccination, and to use instead a term such as "post-infectious encephalitis".

Dr. JITTA confirmed the fact, pointed out by Professor Ricardo Jorge, that the Netherlands law upon contagious diseases required, before children were admitted to a school, the presentation of a certificate of successful vaccination. The Health Council of the Netherlands had suggested to the Minister the presentation of a Bill adjourning for three years the application of this article, but the Parliament had granted adjournment for only one year; it was regrettable that in this short interval no appreciable change in the situation could be made. In the meanwhile, the number of vaccinations had greatly diminished, and during the first four months of the year there had been only one-half of the number made in previous years. Further, this estimate was based only upon the quantities of vaccine distributed and it was probable that the whole quantity had not been used by the population.

In the first days of January 1928, a single case of post-vaccinal encephalitis had been notified and no case had followed. In the last weeks, two doubtful cases had occurred, and their nature was still uncertain. In view of the numerous cases that had occurred in the Netherlands, it was well to be prudent in prognostication.

Dr. Jitta thanked Dr. Hamel for his kind words. Interesting exchanges of views had taken place between Dutch doctors and their German colleagues, in the course of which the different existing hypotheses had been examined. He thought that his German colleagues had received the impression that the question was being seriously studied in the Netherlands. It was agreed that a distinction should be made from the histological point of view between the two kinds of encephalitis, and this distinction had been confirmed by research made in England by the English and Dutch experts.

On the other hand, Dr. Hamel had recommended the adoption of the term " post-infectious encephalitis ". He, Dr. Jitta, was responsible for having used, for the first time in the Health Committee, though not without hesitation, the words " post-vaccinal encephalitis ". This was now a popular term in the Netherlands. It would be desirable to give Dr. Hamel some satisfaction upon this point, but the proposal of his colleague raised objections. It might be that this encephalitis sometimes occurred after measles, chicken-pox, etc., but the point at issue was whether the same infection and the same virus caused the two diseases. The Smallpox and Vaccination Commission might examine the question. If it were to decide to change the customary name, this decision should be based upon logical reasons, but as yet there did not seem to be enough certain knowledge of the nature of the disease. It was to be hoped, as Dr. Hamel had said, that the present state of things, which gave rise to such serious questions, was only transitory.

Dr. Jitta added that, upon the occasion of the visit of the German doctors to the Netherlands, it had been possible to note agreement between the bacteriological researches made in the laboratories of Dr. Pondman and of Dr. Aldershoff and those of Professor Peete of Hamburg. The fact that these identical discoveries had been made from two different quarters seemed to show that the researches were on the right road.

Sir George BUCHANAN said that it was interesting to note that the *prima facie* conclusion that had been arrived at in Germany upon the etiology of the encephalitis in question coincided with that which had been drawn in other countries. This conclusion involved the fundamental hypothesis of the existence of a widespread and normally inoffensive infection which could be activated either by vaccination or by an infectious illness such as scarlatina, whooping-cough, etc. This theory was a very attractive one. From some points of view, however, it was almost too simple, and explained too much. It was too soon to accept it as the only possible hypothesis. The various theories had been reviewed, and were still being reviewed, in the course of studies made in England and in the Netherlands, and he feared that a discussion on this etiological problem at the present session would be long and unprofitable. The Smallpox and Vaccination Commission proposed to deal with it at an early date with the aid of its experts, and its conclusions would then be examined by the Committee. It was for the Chairman of the Commission to suggest the date of meeting for this purpose, but it would in any event be wise to obtain as complete documentation as possible.

With regard to the use of the term " post-vaccinal encephalitis ", Dr. Hamel's suggestion raised two difficulties. In the first place, the work of the Commission was at present limited to conditions occurring after vaccination, and the term which Dr. Hamel suggested would considerably enlarge the field of enquiry. In the second place it would, as Dr. Jitta had said, seem premature, as yet, to use a term which tied the Commission to the acceptance of one explanation of this encephalitis, and excluded other explanations. To give, however, some satisfaction to Dr. Hamel, with whose view he was in much sympathy, he suggested that the Chairman of the Smallpox and Vaccination Commission might, instead of using " post-vaccinal encephalitis " in the heading of Part II of his report, substitute: "Enquiries as to the occurrence of encephalitis, or other affections of the nervous system, in their relation to vaccination ".

The PRESIDENT associated himself with the remarks of Sir George Buchanan regarding the impossibility of discussing this question in the Health Committee, and thought that the problem should be referred to the Smallpox and Vaccination Commission. As regards the suggestions concerning the change of term, they might be examined by the Drafting Committee, which was composed of M. Velghe and Sir George Buchanan.

Dr. CARRIÈRE said that, in view of the fact that the problem as a whole was to be referred to the Smallpox and Vaccination Commission, he had only some brief remarks to make. The new term suggested by Dr. Hamel — post-infectious encephalitis — would be illogical, for encephalitis itself was an infectious disease. If the term were to be changed, perhaps that of " secondary encephalitis " might be used, for this did not prejudge the nature of the encephalitis.

For the rest, he asked that the different points raised by Dr. Hamel should be referred to the Commission at the same time as the proposals that had been made. Furthermore, it would be premature for the Health Committee to come to a decision upon the questions raised by Dr. Hamel, such as, for instance, the question of discovering whether encephalitis was a disease in itself or whether it was only the result of the activation of an offensive virus by an inoffensive virus. What was important, from the purely practical point of view, was the attitude of public opinion in this matter. Unfortunately, it was to be feared that, whatever explanation might be reached, it would not change this opinion or that of the anti-vaccinationists.

Professor Ottolenghi thought that, while progress had been made in the study of post-vaccinal encephalitis, thanks, to a great extent, to the work of the Smallpox and Vaccination Commission and of its Chairman, the problem remained in practically the same position as it had been at the beginning of the enquiry and was still very much wrapt in darkness. The Health Committee would, of course, be unanimous in recommending that the Commission should continue its work in order to arrive, as soon as possible, at some results. He could not express an opinion upon the question whether this affection had the same significance as the encephalitis following upon scarlatina and other infectious illnesses.

His colleague, Dr. Jitta, had made certain remarks upon this subject. He would content himself with suggesting that advantage might perhaps be taken of this hypothesis in order to examine whether there were differences or similarities between encephalitis occurring in children after vaccination and encephalitis consequent upon the infectious illnesses in question. There were histological means of differentiating between post-vaccinal encephalitis and encephalitis lethargica. Would it not be possible to differentiate by the same means between post-vaccinal and the other forms of encephalitis of which he had just spoken ? Perhaps the Smallpox and Vaccination Commission might ask those Governments which were interested in the question to study this aspect of the problem. In the same way, a comparative examination might be made of the frequency of post-vaccinal encephalitis and of the encephalitis consequent upon other infectious diseases of children, with a view to ascertaining the importance of the former. This extremely interesting group of problems should be elucidated in order, if possible, to avoid anything that might render vaccination less acceptable and to remove the dangers to which it might lead.

Professor Ricardo Jorge said that the Committee would be drawn into a long discussion if each of the various observations that had been made were to be reconsidered individually. Further, the Smallpox and Vaccination Commission itself had proposed to adjourn the study of the problem.

He wished only to return to the suggestion of Dr. Hamel concerning the term " post-infectious encephalitis ". The term " post-vaccinal encephalitis " had not raised any remark when it had been introduced three years ago, and this designation was self-evident, since the only thing certain was that the encephalitis in question occurred after vaccination. As to the cause, it was unknown, but the title in question did not in any way prejudice the present hypotheses or the doctrines that might be formulated; the title " post-vaccinal encephalitis " was analogous to that of " post-operatory accident ". It would, moreover, be difficult to seek a more restricted term, for the expression had become popular and efforts in the direction suggested could not do otherwise than awaken mistrust. For his part he had tried to find a formula that would satisfy Dr. Hamel, but without success. Formerly, general use had been made of the expressions " propathic " or " deuteropathic diseases ". Above all, the danger of error should be avoided. Personally, he was far from being convinced that the other post-infectious encephalites were similar to those in question, and it seemed even that they were much rarer. Likewise, no conclusion could be drawn from the similarity of the lesions. For the present, he would refrain from offering any suggestion regarding another title.

In conclusion, he asked that Dr. Hamel should be invited to join the Smallpox and Vaccination Commission.

Dr. Hamel said that he was extremely grateful for this proposal, especially since it came from the Chairman of the Commission.

With regard to the change of title, he pointed out that it was necessary to obviate two possible misunderstandings on the part of the general public: the present term might give the impression (1) that the encephalitis in question was caused by vaccination, which was not the case, and (2) that it was caused only by vaccination, which was equally untrue. For his part, he would support the solution suggested by Dr. Carrière, and amend it as follows: " Secondary encephalitis *post-vaccinationem, post-scarlatinam*, etc."

Dr. Chagas said that he had great admiration for the epidemiological work done by Professor Ricardo Jorge in connection with post-vaccinal encephalitis. The etiology and pathology of this curious malady, which was limited to two or three countries was, however, still in the dark. He would refrain from dealing with the substance of the question.

The title of this malady was of great importance, for, the saying " *post hoc, propter hoc* " remaining true, it appeared to the public that this encephalitis was due to vaccination. Such a title was a dangerous weapon in the hands of the anti-vaccinationists. It did not seem possible to use the expression " post-infectious encephalitis ", encephalitis always being infectious. On the other hand, the other encephalites called secondary were of known origin. Perhaps it would be better to say " cryptogenical encephalitis in vaccine ".

The PRESIDENT asked those of his colleagues who had suggestions to make to communicate them to Professor Ricardo Jorge. All these proposals would be examined by the Smallpox and Vaccination Commission.

The report of the Commission was adopted.

The PRESIDENT added that the amendments proposed in the resolutions of the Commission would be examined by the Drafting Committee.

355. **Examination of the Report of the Medical Director on the Work of the Health Organisation since the Last Session of the Committee.**

The PRESIDENT opened the discussion on the Medical Director's report (Annex 4).

Dr. RAJCHMAN suggested that, at the present meeting, that part of the report relating to the interchange on rural hygiene should be examined.

Sir George BUCHANAN asked whether the Committee would, as in previous years, have the opportunity of discussing the report of the Medical Director in its entirety. This would enable the members of the Committee to make useful general observations.

Dr. RAJCHMAN replied that he only wished that the chapter of the report which he had mentioned should be discussed first. His report would also be discussed as a whole.

INTERCHANGE ON RURAL HYGIENE

Dr. BOUDREAU said that the preparation of this interchange had been a difficult task for the Section, which had been greatly assisted by the deliberations of the Health Committee at the last session. Further, members of the Committee in several of the countries to be visited by the interchange had done everything in their power to make the task as easy as possible by lending their advice and counsel as well as by securing the interest and assistance of all organisations having a relation to rural hygiene. He wished to thank particularly Professor Léon Bernard, Dr. Hamel, Dr. Jitta and M. Velghe who had taken so much interest and given so much assistance in this respect.

The interchange would begin in the Kingdom of the Serbs, Croats and Slovenes on May 27th and would visit successively Hungary, Germany, the Netherlands, Belgium and France. The Health Committee would find the provisional programme in document C.H./E.P.S. 137 which had been distributed. For the purpose of the interchange, which could not consider all aspects of rural hygiene in the period of eight weeks, the following general divisions of the subject had been selected.

1. Sanitation:

   (*a*) Water supplies;
   (*b*) Sewage disposal;
   (*c*) Housing;
   (*d*) Protection of milk supplies.

2. Organisation and Administration: Federal, State and local agencies, official and non-official, concerned with rural hygiene, and having to do with infant and maternal welfare, school hygiene, infectious diseases, including tuberculosis and venereal diseases, public health education, provision of hospitals, medical care, etc.

3. Influence on rural hygiene of organisations and institutions not directly concerned, such as co-operative associations, health insurance organisations, etc.

The last item had been inserted on the recommendation of certain members of the Committee, who felt it would be unwise to restrict the interchange to questions bearing directly on rural hygiene.

It was hardly necessary to remind the Committee of the progress Dr. Stampar had made in solving the difficult and complicated health problems in his country, the Kingdom of the Serbs, Croats and Slovenes. The interchange would remain in that country for ten days, studying the widely varying health conditions in Dalmatia, Croatia, Serbia and Macedonia, and visiting several of the splendid public health institutes which were the centres of scientific and practical health work in the various districts. The participants would be enabled to study at close range the results of the campaign as regards public health education which had been carried on so vigorously. This was the only country to be visited by the interchange where malaria was a problem, and the participants would be able to study the results of various anti-malarial measures applied to meet different conditions.

Five days would be spent in Hungary. Here the participants would be given full information as to the rural health programme by Dr. Scholtz and his colleagues and would also visit Gödöllö, a rural district selected as the seat of a health demonstration. Problems of rural water

supply and sewage disposal were particularly acute in the villages in this district, the scattering of the houses and the flatness of the plain rendering any general system of water supply or of sewage disposal impossible. An effort was being made to prevent the contamination of the village wells which must be depended on by the population, and model wells would be shown to the participants.

A feature of unusual interest was the system of sewage disposal in Tatabanyi where every house was provided with two cesspools which were periodically emptied by means of gasolene pumps. The contents were transported in tanks to concrete pits, and mixed with dried peat, the mixture after drying being sold as fertiliser to the farmers. Should this system prove economical and hygienic, it might be extended to other Hungarian villages. Other visits in Hungary would be made for the purpose of inspecting housing and other sanitary schemes of interest to rural districts.

The visit to Germany would begin on July 13th at Freilassing. Dr. Hamel and his colleagues in the Federal and State Governments had prepared a programme designed to show a few of the most interesting features of rural hygiene. For instance, in Germany alone was it possible to study well-developed health insurance in rural districts. Water supplies and systems of sewage disposal were particularly well developed and the housing schemes for rural districts were of special interest. The participants would visit rural districts in Bavaria, Saxony, Prussia, Silesia, and Schleswig-Holstein.

The period in the Netherlands would begin on June 25th and end on June 30th. Particular attention would be paid to provincial water supplies, to the prevalence of typhoid fever in relation to water supplies and to the activities of the Green Cross which supplied ambulance, medical, school hygiene, nursing and tuberculosis services to the rural population in certain of the rural districts. The members of the Health Committee would doubtless wish to hear from Dr. Jitta something of the development of water supplies and of the work of the Green Cross in the Netherlands.

In Belgium, which would be reached on July 10th, the participants would be given ample opportunity to study the influence of private initiative on rural hygiene. The activities of the Farmers League were of particular interest on account of the co-operation of this powerful organisation with the Public Health Services in public health education and in other aspects of public health work. Naturally, every important activity relating to rural hygiene would be demonstrated. Dr. Boudreau was simply attempting to mention one or two features of particular interest in connection with each country, as it was felt the programme should be concentrated especially on these.

In France, three departments would be visited; the Aisne where the reconstruction of villages provided an excellent opportunity for studying housing and water supply; the Seine-Inférieure, which possessed the oldest official health organisation in France and where vital statistics were particularly well developed, and the Seine et-Oise where the departmental health inspector had been successful in co-ordinating the action of all the official and private health organisations in the department. The short stay in Paris would be utilised in order to give the participants a general view of rural hygiene in France by means of lectures by officials from the Ministries concerned. There would be a final conference at Geneva beginning on July 23rd.

Perhaps some of the members of the Committee would think that countries other than those selected should be visited, and, in particular, that England and Denmark should not be omitted. There was everything to be said in favour of including these two countries which had reached such a high state of development as regards rural hygiene. On the other hand, there were excellent reasons for failing to include them in the present interchange. In the first place, it was unreasonable to ask public health officers to be absent from their work for more than two months. An effort would be made to compensate for the failure to include Denmark, for example, by securing reports on rural hygiene in Denmark from the Danish participants which would enable the interchange group to learn what was being done for rural hygiene in this and other countries which were not visited by the interchange.

In conversation with Colonel Graham and others who had been concerned with interchanges, Dr. Boudreau had learned that the participants frequently asked questions for which answers might be found in the handbooks specially prepared for the interchange. It would be remembered that, in the previous year, Dr. Hamel had prepared excellent handbooks of this kind which contained brief descriptions of the institutions visited and summaries of the lectures which were delivered. The fact that the participants did not take full advantage of these handbooks made it necessary to resort to some other method of illustration, and this might be found in the cinema. It was not a question of showing films adapted for the public but of preparing films which would in fact explain technical features of rural hygiene. Obviously these films would have much more text than was usual and many graphic illustrations of statistics relating to rural hygiene. The development of the cinema in this direction had been so remarkable in recent years that there should be no difficulty in illustrating every aspect of rural hygiene by this means. The exhibition of these films to the participants in an interchange would practically force upon their attention the salient facts relating to rural hygiene. Belgium had been chosen as the seat of the first experiment through the kindness of M. Velghe, but the rural interchange would be fully illustrated by this means and Dr. Boudreau hoped he would be able to supplement the report on the interchange by the exhibition of a film at a subsequent session of the Committee.

The practice of asking each participant to prepare a report on the interchange had been followed in the past. While this was useful it provided a rather lengthy documentation which was not a succinct description of the views of the group as a whole. A new method would be tried in

the present interchange, the report to be prepared by the group as a whole, so that it would be, in effect, a crystallisation of the discussions which would take place in the final conference and would furnish the Health Committee with much material of interest on rural hygiene. This report should be ready for the next session of the Committee.

Dr. JITTA made the following statement on conditions in the Netherlands.

Water was abundant there, but not drinking-water. The requirements of hygiene made it necessary to draw the water either from uncultivated ground, or at great depth or after careful purification of river water.

The total number of inhabitants provided with drinking water amounted to almost 5 millions out of a grand total of 7 million inhabitants. The solution of the economic problem had already been arrived at in the case of 6,000 or 8,000 inhabitants assembled in one locality, but it remained difficult in the case of the country districts. Small localities could not meet the necessary expenses and therefore regional water supply services had been created with the aid of, and by means of, advances from the State. The water was distributed direct to the consumers, and there were several regional installations. To mention only the principal ones, there were those of Northern Brabant and of the Province of Northern Holland. These services did not work at a loss, thanks to the obligatory subscription of the owners of all estates within a certain distance from the water conduits. This obligation had caused much resistance and caused it still, for the inhabitants had formerly used rain water gratuitously and had done as best they could in time of drought. The charges were moderate, the price being 20 to 25 centimes a cubic metre. The value of this system, which it was hoped to extend as much as possible, could not be over-emphasised.

With regard to the health and medical services in the country, there was in the Netherlands a great number of small hospitals, of which the majority were scattered, making them available for use from all parts, thanks to the ease of transport. The number of doctors and of midwives, although lower in the rural districts, was not insufficient. There were only a few poor communes where State subsidies were granted to doctors and especially to midwives. In this case efficient work was done by private initiative.

Turning to the Societies of Crosses of different colours, Dr. Jitta explained that the Red Cross subsidised particularly institutions of general interest. Before the Green Cross, there had already existed in the Netherlands another institution, the White Cross, which had worked in a single province, but this Society had now been amalgamated with the Green Cross.

The aim of the Green Cross, which had existed since 1900, was twofold. It tried to spread health ideas throughout the country and to secure their application: in the second place, it occupied itself actively with the treatment of sick persons in their homes. The Green Cross constituted a single association for the entire country, and it comprised with the White Cross eleven provincial associations and more than 860 local associations; it was supported by about 500,000 members and had at its disposal a revenue of 1,500,000 florins. The local associations also had a depot for the accessories necessary to the treatment of sick persons, which they lent gratuitously, and even had shelters for open-air treatment, etc.

The association had at its disposal a sufficient number of apparatus for disinfection and a large number of male and female nurses. There were more than 450 female nurses in connection with the Green Cross. The Society also organised the instruction of visiting nurses, provided nurses who took care of the mother and her child, and also domestic help. As soon as a woman could no longer carry out her domestic duties, the Green Cross sent her a help who did the housework, took care of the children, etc. It also had at its disposal a large number of ambulance cars and a telephonic call system.

The more technical work of the Green Cross consisted in lectures on the elementary principles of hygiene. It gave courses to prospective mothers on the care of the child, etc., and it subsidised dispensaries or granted gratuitous consultations for cases of tuberculosis. At the head of this model institution was a clergyman, Dr. Pleucher, who had the assistance of a great number of doctors.

Other private societies worked with the same aim, but their scope was much more modest.

By far the least well endowed province in the Netherlands was the province of Drenthe. The social conditions in this province were bad. A large part of the soil consisted of turf, and the exploitation of this turf was becoming more and more difficult. It was only during the war when fuel was short in the Netherlands that this exploitation had increased and had occasioned the immigration of foreign workmen into the country; development having now almost entirely ceased, the distress was all the greater. The State, the province, and private initiative had combined their efforts. Dispensaries had been built, and houses for the care of children and for the instruction of mothers had been established. Medical officers supervised the whole district. Children were sent elsewhere either to private houses or to Children's colonies. The houses which had been so inadequate had been replaced, and the whole district was slowly recovering.

M. VELGHE recalled that at the last session he had been one of those who had energetically supported the proposal for the organisation of a rural hygiene interchange. Since then, the more occasion that he had had to occupy himself with the preparation of this interchange, in so far as his own country was concerned the more had he become attached to this work and seen its use. He was convinced that in Belgium and in other countries there were many interesting things that might be shown to the members of the interchange, and the general view of rural hygiene that it would be possible to present would be most suggestive. He would therefore follow with great interest the course of the interchange, not only in Belgium, but in the other countries.

Never hitherto had the idea occurred of making such a general picture in Belgium. The health administration of this country had, however, always taken a great interest in the development

of hygiene in the country districts, especially with a view to enabling the rural population, which had few advantages in this respect, to profit by the arrangements that benefited the urban centres. Moreover, it was not only the Department of Public Health in Belgium that dealt with the question of social hygiene in the country. The Ministry of Agriculture also, although it dealt, above all, with economic matter had been obliged to undertake the work of improving the sanitation of the country districts and of increasing the comfort of the rural populations. Other departments had also given their help, and, in particular, some associations, among which he wished to state the principal ones:

The National Society of Water Supply, which had as its province the entire Belgian territory, and the aim of which was exactly the same as that to which Dr. Jitta had referred in connection with the Netherlands;

The National Society of Local Railways, which had improved communications between the rural districts and urban centres.

The General Savings Bank;

The National Society for Cheap Houses which had done much to improve housing conditions in the country;

And, finally, an entirely private association called the Peasants' League, upon which something particular should be said.

The original aim of this League, which had been founded about twenty-five years ago, had been to remedy the unfortunate economic situation of the country inhabitants at that time. The Peasants' League was a kind of federation of all the credit co-operatives installed by it over the whole Belgian territory. This association had become a financial organisation of the first importance. It had at its disposal at the present time such a large amount of capital that it had had to appropriate it to other uses than agriculture. Not only had it concerned itself with the country districts from the economic point of view, but it had also wished to work for the general good of the people of the country districts, and had in a great degree attained its aim. It had interested itself in the welfare of the peasants — a welfare that could not be realised if attention were not paid to hygiene — and it had worked for the sanitary improvement of the country districts, partly in collaboration with the administration and partly individually. It would be extremely interesting for the members of the interchange to see the work thus done, and all the more so because the League in question represented in this respect perhaps a unique idea, particular to Belgium.

With regard to cinematograph pictures, M. Velghe said that he had agreed to assist in the proposed trial. He would, however, crave the indulgence of the Committee, in the first place, because this was a new experiment, and, further, because he had been told of it somewhat late.

Dr. Lutrario attached great importance to the rural hygiene interchange. Until now the attention of public bodies had been specially attracted to the great urban centres, and the villages had been a little neglected. During the many years that he had passed at the General Directorate of Health in Italy, he had seen the geography of illnesses change, some of them having disappeared from the urban centres and established themselves in rural centres.

He thought that the programme of the interchange had been very well planned. He would, however, venture to draw attention to the following points:

(1) Under the letter A, relating to sanitary conditions, reference was made to the use of gutter water, which was of fundamental importance in rural hygiene, for this water constituted manure. Now, properly speaking, there were no gutters in villages where the system was mainly static; that was to say, the system of absorbent wells and of fixed or mobile pits. Perhaps it would be better to speak of "residuary waters" and of "night-soil", which was the residue of the pits; the enumeration would be completed by the mention of "manure" and of "house rubbish".

(2) Under point B.VI, reference was made to the "Medical and Hospital Service". The questions of special interest for the country districts were medical assistance to the poor and free delivery of medicines. He proposed that there should be added in brackets the reference "notably medical and pharmaceutical aid to the poor".

Dr. Tsurumi read extracts from a handbook that had recently been published by Dr. Rokuro Takano on "Bacteriological and Parasitological Study and Disposal of Night-soil in Japan".

The President thanked Dr. Tsurumi warmly on behalf of the entire Committee for his interesting communication. He would ask the Medical Director to distribute to the Committee the main passages of this handbook.

Dr. Rajchman regretted that Dr. Tsurumi had not told him before of this book, which was of great importance, in order that he might have had it reproduced and distributed in both languages. In it were summarised for the first time the results that had been obtained in the stations instituted by the Japanese authorities, and to which the Medical Director had referred on his return from Japan. The results were of importance not only to Japan, but also to a large number of countries.

Dr. Hamel explained that the long circular journey that was to be made by the participants of the interchange in Germany, the itinerary being Bavaria, Saxony, Berlin, Silesia, and Schleswig-Holstein, would enable them to study the measures that had been taken in that country in the most various centres. Visits would be made to purely agricultural districts, to purely industrial districts, and to mixed districts. The members of the interchange would thus realise the diversity of the conditions in the country.

It should be remembered that formerly the population of Germany was two-thirds agricultural and one-third industrial; this proportion had been reversed in the last forty years, and on this change in the economic structure of the country rested the social work that had been undertaken in Germany. The industrial population being to-day spread over the whole land, it followed that the peasants benefited in all respects from the measures that had been undertaken in the first place for the industrial workers — medical aid, child welfare, maternity assistance, measures against venereal disease, tuberculosis, etc., and the great organisation of social insurance which had extended its activity from the towns to the country. Members of the interchange would also notice that, even in purely agricultural districts such as Schleswig-Holstein, all forms of social assistance were as widespread as if the district had been solely industrial.

The discussion was adjourned to the next meeting.

FOURTH MEETING

Held on Thursday, May 3rd, 1928, at 11 a.m.

President: Dr. Th. MADSEN.

356. Examination of the Report of the Medical Director on the Work of the Health Organisation since the Last Session of the Committee (continuation).

INTERCHANGE ON RURAL HYGIENE (continuation).

Dr. CHODZKO thought that the Committee might congratulate itself upon the organisation of the rural hygiene interchange due to the initiative of M. Velghe and of the Health Section of the Secretariat. Referring to the provisional programme of the interchange he expressed his satisfaction with the first part of this programme. Mention should, however, be made of the necessity for keeping rural statistics separate in order that a sound basis might be obtained for future programmes of rural hygiene in the different countries.

On the other hand, Part II of the programme seemed to him too extensive, and he thought that it dealt with a number of details which were not all relevant to the aim of the interchange. As regards Hungary, the details given of the village of Tarabanyi were certainly interesting, but they were only minor points; the same remark applied to the sections on flower-growing and toy-manufacture in Germany. Finally, as regards France, the model village constructed in the Department of the Aisne for railway employees should not be included in a study of sanitary improvements in the country; the same was the case as regards the preventorium and the maritime sanatorium in the Department of Seine-Inférieure. He thought that it would be wise to curtail this programme.

It also seemed to him that the most important thing to be done was to take this opportunity of forming a doctrine that would serve as a basis for these rural hygiene interchanges. He had himself tried to collect documentation regarding several countries, and the net result had seemed to be that the programme of rural hygiene constituted to some extent an urbanisation of the country. As Dr. Hamel had remarked, it had been noticed in Germany that, in districts where the country had been industrialised, rural hygiene made striking progress. Under these circumstances, it might have been well to choose for the first interchange countries where the programme of urbanisation was particularly evident.

Among these countries the most prominent was Denmark. Dr. Boudreau had explained that it had not been possible to include Denmark in the list of countries that were to be visited. It was, however, one of those in which rural hygiene appeared in its most natural form, for it had developed there upon the basis of agricultural industry. He had before him a very important report from the International Labour Office in which it was stated that, with regard to agricultural co-operation and considered from the point of view of the results obtained, Denmark was in the first rank and that the Danish co-operatives included more than 85 per cent of the agricultural population of the country. It was evident that this agricultural industry would exercise an influence upon the development of rural hygiene, and Dr. Madsen had pointed out this fact to him during his journey in Denmark.

The visit would include the Netherlands, where the evolution seemed to have been somewhat analogous to that of Denmark. Then came Belgium, where rural hygiene had developed, under the influence of urbanisation and industrialisation; the progress there had been such that this country seemed to be in the process of becoming one great city.

It was clear that rural hygiene developed in the most harmonious and uniform manner in countries where the general health organisation had reached a high degree of perfection. It was certain, therefore, that countries such as Denmark and England should have been considered, and he greatly regretted that they were not in the list of countries to be visited.

It would be noticed that Hungary was no doubt of interest because very systematic work had been undertaken there in this field, although as yet the programme of rural hygiene had not been carried out on a large scale. On the other hand, the Kingdom of the Serbs, Croats and Slovenes

presented an absolutely unique field for experiment. Rural hygiene was developing there upon a basis quite different to that in Western Europe, thanks to a plan conceived by a man of genius, and it would be interesting to observe the application of this programme.

As regards Poland, it was evident that nothing very interesting in this respect could as yet be shown in the country. He would take this opportunity to explain that the Polish idea was somewhat different. The work of the sanitary improvement of the country had been based upon the institution of rural dispensaries of social hygiene. This institution had been heartily welcomed by the population, and ninety of these dispensaries were being organised. On account of the conditions in Poland, the rural dispensaries, while doing technical sanitary work in the country, would also form a basis for a true campaign of social hygiene. The existence of district sick-funds in Poland would facilitate the establishment of such dispensaries. He hoped that in two or three years Poland would be able to extend an invitation to the participants of a rural hygiene interchange and show them the results obtained from the work that had already been commenced.

In conclusion, he would ask that a doctrine for this kind of interchange, which was so important and so fruitful, should be established for the future, and he would insist upon the fact that the countries most suitable for a visit were those having a system of rural hygiene spread uniformly over all their territory, and endowed with an adequate health organisation.

The PRESIDENT thanked Dr. Chodzko for his flattering remarks regarding Denmark. He understood that an interchange had been arranged for the following year in England and in Denmark.

Dr. WINSLOW congratulated Dr. Boudreau and the Health Committee upon the organisation of the rural hygiene interchange, which was of very great interest and had been extremely well planned.

In connection with these interchanges, and in reply to the remarks of Dr. Chodzko, he wished to point out the value of studying the situation not only in the agricultural districts but also in the semi-urban districts. The two presented common and inseparable, though sometimes different, characteristics. In his opinion, the choice of the Hungarian model village was extremely significant. The importance of the semi-urban villages and their advantages, notably from the point of view of water supply, had already been remarked.

The most difficult problem was that of the isolated farms, as much from the sanitary as from the educational point of view, and particularly with regard to the water supply, medical assistance and disposal of waste. On account of his isolation, the resident of the country had as much, if not more, need of assistance as the inhabitant of the town. The particular position of the villages should, however, be borne in mind. In a town, for instance, it had been found that one nurse was sufficient for 2,000 inhabitants, but in the country one nurse might perhaps not be able to cope with more than 1,500 inhabitants This was only one example of the difficulties encountered in passing from urban to rural hygiene.

Another difficulty was that of finding the necessary money; a rural district was frequently not able to meet the expense of a nursing service. In this respect, the obstacles varied according to the degree of centralisation of the country, and they were less in very centralised countries, like the majority of European countries and notably France, than in the United States. It would therefore be well to enquire also into the financial aspect of the problem.

The future interchange would do much for the appreciation of the importance of the rôle played by co-operation, for instance, in Denmark, in the Netherlands and in Belgium. The means by which, in the countries, the problems that had arisen had been solved would be worthy of study.

It would be remembered that, in the first place, interchanges had been planned solely for the instruction of the participants themselves. He was glad to see they had gradually grown in importance, and the present interchange would be of value not only to the participants but to all those who could learn of the facts that had been observed. In this way a general view of rural hygiene would be obtained, and the study of the results achieved would be of great interest.

He agreed with Dr. Chodzko as to the necessity of establishing statistics in which a distinction was made between urban and rural centres. This question was of particular interest to the United States, and the Epidemiological Information Service of the League of Nations would certainly be in a position to provide data of this kind. At the present time, fifty American counties were being studied from this point of view, in order that a basis might be obtained for further and more extensive study, and the results of this research would be submitted to the Health Committee.

Perhaps the European members of the Committee did not realise the importance to distant countries like Australia and the United States of work such as that of the Health Organisation. In European countries it was comparatively easy to have first-hand information, but this was not the case for the inhabitants of more distant regions. Such explanations upon general questions were of the greatest importance for countries which had fewer facilities at their disposal.

The PRESIDENT warmly thanked Dr. Winslow for his flattering expression of appreciation of the work of the Health Committee.

Colonel GRAHAM wished to associate himself with the flattering remarks made by other members of the Committee regarding the interest of the interchange that was about to take place. Rural hygiene was one of the most difficult of Eastern problems, as much for financial reasons as because of the lack of staff.

In considering this problem, account should be taken not only of sanitary environment but also of economic factors, such as the poverty of the population, and of educational factors,

such as the campaign to overcome the prejudices created by superstition or by certain religious customs. The educational factor was one of the most important and he doubted whether it had been given sufficient prominence. When a population did not understand the use of what it was taught, it did not follow the advice it received.

In India, the cinematograph played a very important rôle in education. Its very useful work had been seen in the spread of information regarding maternity, cholera, plague and general hygiene. The films that had been shown in Bengal, the United Provinces, Madras and the Punjab were particularly worthy of remark. When the President of the Committee was in India, he had been able to appreciate the value of this kind of educational film in a district in the neighbourhood of Delhi, where for the last seven years the District Commissioner had taken a great interest in the question. He regretted that this film, which he had wished to bring to Geneva, had not yet arrived.

In order to be efficacious, it was indispensable that the cinema should make use of local conditions. Indeed, the only means of impressing the minds of villagers was to show them a village similar to their own, for it was evident that they would take no interest in seeing a film showing conditions of life in, for instance, an American village.

Another institution which had proved most useful was that of the travelling dispensary, which was in charge of a doctor. These dispensaries were intended for the treatment of simple cases, and contained first-aid supplies and also magic-lantern apparatus. The slides, accompanied by a lecture, greatly interested the villagers and made them understand the use of the measures that were recommended to them.

As regards sanitary environment, the most important problems were those of the water supply and of the disposal of night-soil. Extremely effective results had been obtained by the chlorination of drinking-water in order to prevent cholera, and in India considerable experience had been acquired in this domain. At Bombay, for instance, participants of the interchange had seen that each day 100 million gallons of water were treated with liquid chlorine. In the case of well-water, the same results could be obtained by means of bleaching powder, which was always included in the stock of the travelling dispensaries.

The remarks of M. Velghe upon agricultural co-operation had greatly interested him. At Bengal, there was an anti-malaria society which comprised 350 branches directed by laymen and which did excellent work. He had great confidence in this kind of co-operation, for the population was more easily influenced by persons of its own class than by doctors. The participants of the interchange had also been very much struck by this fact, and had considered that laymen should be encouraged to participate as much as possible in this kind of work.

Summarising his remarks, he would insist upon the importance of co-ordinating the action of the economic, educational, medical and sanitary factors.

The PRESIDENT thanked Colonel Graham for his interesting statement. The difficult problem of rural hygiene was of particular importance to India, at least 90 per cent of its population being villagers. It was to be regretted that it would not be possible for the Committee to see the film of which Colonel Graham had spoken. The participants of the interchange and he himself had been much interested by this film, which illustrated in a striking manner the conditions of the country and what could be done to improve them.

M. VELGHE thanked Dr. Chodzko. Dr. Winslow and Colonel Graham for their wise remarks, and said that he was convinced that those who had the responsibility of organising the interchange would bear them in mind. It would not be possible, for instance, to neglect the statistics. The Committee would remember that, in the previous year, it had, on the occasion of the discussion of the programme of the interchange, assigned to these statistics definite aims which were enumerated at the head of the first page of the document containing the programme of the interchange. The more this question had been studied, the greater had been the tendency to extend the programme, and he did not think himself that it included many side issues. In any case, statistics were evidently included among the studies to be undertaken for the organisation of hygiene in country districts. Demographic statistics were necessary to a knowledge of the field of action and the combat against tuberculosis, venereal diseases, typhoid fever, diphtheria, etc., could only be continued provided that statistics were available. As regards Belgium, he would be able to furnish statistics that would no doubt satisfy Dr. Chodzko.

The criticisms of his colleague upon the itinerary of the visit had come somewhat late. For his part, he would have asked nothing better than a year's adjournment of the visit to Belgium, in order to profit by the experience that would be made elsewhere, but there was no question of going back upon what had been already decided.

On the other hand, his colleague had certainly exaggerated in implying that agriculture was of no more importance in Belgium. Agriculture was the first and the most important of the industries of the country, far more so than mining and iron-working. The great majority of the population was rural and, according to the district, cultivation was carried out on a large, medium or small scale. Thanks to the ready means of communication, a number of industrial workers returned every day to their villages and cultivated their small field after having worked in the mine or in the workshop. It might be considered that in Belgium 60 or 70 per cent of the population was rural, and the co-existence on a small territory of people employed in medium or small scale cultivation or in industry had surely resulted in a mingling of populations that was very advantageous for rural hygiene. It was precisely for this reason that in Belgium there would no doubt be interesting things to show to the participants of the interchange, and things relating to the actual object of the interchange, that was to say, the enquiry into what was being done to improve the health of rural populations.

M. Velghe entirely agreed with Dr. Winslow that the interchanges should be useful not only to the participants but to everyone. He understood that the Medical Director wished all sanitary

organisations to profit as much as possible from the interchanges. As regards rural hygiene, which was a new subject for the Committee, the Medical Director had an excellent means of meeting the wishes of Dr. Winslow and of himself, namely, the communication of a summary of the work of the interchange to all health administrations.

Surgeon-General CUMMING was convinced that the rural hygiene interchange would give excellent results. An attempt should not, however, be made to cover too large a field and perhaps it would be well not to extend the programme to cover any more details. Some of the previous interchanges had given the impression of a rapid and even boisterous tour, which had not produced all the results that might have been expected.

In the United States the serious epidemic of 1911 and 1912 had, more than anything else, made public health organisation the object of great attention. Since then, this organisation had developed slowly but continuously. Stress should be laid, in the first place, upon the fact that rural hygiene rested quite as much upon social and economic as upon sanitary principles. There was much talk of standardisation, but this could do as much harm as good. It was a matter not of bringing everything to the same level but of laying down basic principles.

The sanitary unit of the United States was the county in all the States with the exception of New England, where the States were divided into parishes. The counties varied much in size, some being only a few square miles in extent and others being as large as a European country; the figures of population were equally variable. Nevertheless, each county organisation, however small, possessed at least one visiting nurse, one sanitary inspector and one stenographer. The average budget was about 10,000 dollars.

The Federal Administration and the Rockefeller Foundation, which worked in close collaboration, had laid down the principle that no one should get something for nothing. If, after having subsidised a county, the Federal Administration and the Rockefeller services found that this county had not made the necessary fiscal effort to help itself, this was a sign that there was nothing to be expected from this county. The two services in question tried to persuade each county to take in hand a two or three years' programme, and they were each prepared to subsidise to the amount of 25 per cent, the remainder of the necessary credits being found by the county itself.

The Mississippi floods had affected six or seven States, 320 counties and 7 million people. In the organisation of relief it had not been possible to follow the precedent of the Florida disaster, for on that occasion the organisation had been bad. At the time of the Mississippi floods, President Coolidge had entrusted Mr. Hoover with the co-ordination of all the efforts made, and on that occasion certain definite facts had been brought to light in relation to the county with a suitable health organisation.

In the first place, however rudimentary the county organisations had necessarily been in certain respects, they had rendered excellent service in the centralisation of the relief measures, and thanks to them it had been possible to put a speedy end to the disorders that followed the flood. Money came in abundance and at first sight it would seem that the main difficulty would be the lack of trained staff. Here again, however, another and important fact had been remarked. It was not essential that all the staff attached to a health organisation should have received a special university training. It was sufficient for it to have experience regarding the kind of work that was asked of it, and common sense. The volunteers received a course of intensive training lasting for six or eight weeks, after which they were of the greatest service. Another fact that had been remarked was that, despite the complete upheaval of the health organisation in the counties affected by the disaster, the situation with regard to diseases, such as smallpox, typhus, etc., was more satisfactory in the districts in question after the flood than it had been previously under the ordinary conditions.

From the point of view of rural hygiene, the most interesting States were the Southern ones, where malaria and typhoid fever were rampant. The essential problems were the water supply and the disposal of waste. These two capital points had been the object of study by health organisations, and a special tribute should be paid to Dr. Winslow, who had directed this work so well. The excellent roads in the country had made it possible to institute sanitary motor-cars, known by the name of "healthmobiles", and these motor-cars gave to the rural population demonstrations that had for it all the attractions of a circus. The fullest use was also made of the advantages provided by the wireless, which was placed twice a week at the disposal of the United States Public Health Service in Washington. This form of communication greatly interested the farmers, but it was necessary to select the best psychological moment for these health talks.

All these were points of detail, but they had their importance. The efforts of health administrations extended in these different directions. The control exercised by the State over the counties was very variable, sometimes very strict and sometimes rather lax.

The PRESIDENT thanked Surgeon-General Cumming for his instructive statement.

Sir George BUCHANAN said he would refrain from discussing the tempting subject of rural hygiene, its meaning or its philosophy. He spoke now only because Dr. Chodzko had mentioned the case of the United Kingdom. There were in the United Kingdom a great number of rural areas, almost wholly agricultural. The British agricultural industry remained a great industry, although, on account of the import of excellent food products from Denmark, Belgium, the Netherlands, the British Colonies and elsewhere, which had been referred to that morning, it was not perhaps quite as flourishing as some people would like to see it.

It must not be supposed, however, that in England the present official classification of territory into "urban" and "rural" districts necessarily corresponded to thickly and sparsely populated

areas, or properly distinguished between non-agricultural and agricultural areas. Relatively little change had been made in the official classification since the passing of the Public Health Acts over forty years ago. Demographic statistics formed upon the basis of the existing classification were thus liable to lead to false deductions. If a rural hygiene interchange were to take place in England, it would be necessary to choose with care the districts that were to be studied.

At first sight, the United Kingdom did not seem to be a particularly suitable country for an interchange having as its aim the study of measures applicable to a mainly agricultural country. If, however, the Health Committee were to decide to study rural conditions in England, Scotland or Northern Ireland, the British administrations concerned would be happy to help the participants to profit from their visit. It would, however, be essential for this purpose to study the general sanitary organisation which applied to the whole country; it would be almost impossible, and indeed useless, to undertake a study beginning and ending with rural hygiene. Practically the same measures of hygiene were required in all the urban or rural districts, and the special services, as, for example, for maternity and child welfare, insurance, infectious diseases, tuberculosis, school medical inspection, etc., applied all round.

To summarise his remarks, if a rural hygiene interchange were to take place in the United Kingdom, it would be necessary first to show the participants what the general system of hygiene in the country was, and then how it was adjusted to the requirements of the more agricultural and rural areas. Efforts could also be made to show the participants the same special features of administration or of practical hygiene that had been made in particular rural districts

The PRESIDENT explained that in Denmark the problem of rural hygiene might be considered as non-existent, inasmuch as there was no systematic effort in the country towards such hygiene. The situation in Denmark was indeed the same as that in England. The general programme of hygiene was applied to the whole country irrespective of the nature of the district, urban or rural.

A characteristic of Denmark was, however, the high standard of the population from the point of view of education and conditions of life. It had already been remarked that a striking feature of the country was the extension of the co-operative system, which included practically the entire rural population. Danish agriculture was very much industrialised and the farmers had realised how important it was that this industry should have a scientific basis. Taking, for example, the question of milk inspection, it was clear that, if the cattle were ill, the butter would be bad, and the countries importing dairy products would withdraw their orders. The Danish farmers had thus understood the importance of cleanliness for cattle and, consequently, for those who were in contact with cattle.

As he had already had occasion to explain to Dr. Lutrario, in Denmark the responsibility for all the measures against infectious diseases rested with a small Committee composed of a public health official, a representative of the police and three taxpayers. Thus the initiative of measures that might sometimes entail great expense was entrusted to an organism in which the majority of the members were taxpayers.

Prominence had been justly given to the importance of various problems: disposal of waste matter, water supply, etc. One of the main questions was certainly that of milk control, for it was well known that tainted milk was the cause of a number of epidemic illnesses: diphtheria, scarlatina, etc. Perhaps some day it would be well for the Health Committee as a whole to undertake the study of the part played by milk in the spread of disease.

In conclusion, the President said that he hoped the participants of a rural hygiene interchange would come in the following year to Denmark. No doubt, they would see no model farms there. What they would see would be a very simple system giving efficacious results thanks to the goodwill of all those who collaborated in its operation.

Dr. TSURUMI said that the question of rural hygiene was of capital importance for Japan. In that country, a considerable migration of agricultural workers to the towns had been noticed. The urbanisation of the country was increasing yearly. No doubt this phenomenon could be explained by several reasons, but it was certain that the hygienic factor should be included among them. For this reason, much was to be expected from the results of the forthcoming interchange as regards the improvement of rural hygiene conditions.

Professor OTTOLENGHI said that most of the remarks that he had wished to make had already been made by Dr. Winslow and Sir George Buchanan. He would, however, insist upon the great importance of taking into consideration, in the course of this interchange, the demographic statistics of the rural districts that were to be visited. These would make it possible to obtain an exact idea of the sanitary situation and a better estimate of existing conditions and of the progress that had been made.

He also drew the attention of Dr. Boudreau to a point that was perhaps included in the programme but which was not very prominent, namely, the sanitary control of food products. Generally speaking, no efficacious protection of public health was possible, as regards the important question of the food supply, without the existence of good laboratories entrusted with the inspection of food. In the absence of such laboratories, it often happened that unwholesome foodstuffs or food of low nutritive value rejected in towns, where supervision was more strict, could be sent to and eaten in country districts where there was no well-equipped and regular inspection service. The necessity for this service had been recognised in Italy, where each province was obliged by law to set up chemical and bacteriological laboratories for inspection purposes. These laboratories, which were under the control of the health authorities, formed the basis of health supervision, covering infectious diseases as well as food and water, and were in a position

to exercise a beneficial influence in the smallest and most distant parts of the country. He ventured to offer this suggestion in order to complete, if possible, the programme of this interchange, which had been so well planned by Dr. Boudreau whom he wished heartily to congratulate.

Dr. CARRIÈRE wished to remind the Committee, with regard to the observations made by Professor Ottolenghi, that in Switzerland the Health Administration was very much decentralised. In one field, however, that of the control of foodstuffs, centralisation had, in fact, been achieved. This control was regulated by a Federal law applicable to the whole country. It had been possible to use this form of partial centralisation in order to promote rural hygiene. The law compelled communes or groups of communes to set up sanitary Committees whose first duty was obviously to supervise the trade in foodstuffs. This control was a very important part of public health. These Committees, however, had become organisations which dealt with various questions connected with public health, more especially drinking water. In the rural communes, the action of these Committees had proved of great effect and their activity was increasing. Here, therefore, was a solution, although it was very much in the early stages at the moment, of the problem of rural hygiene, and Dr. Carrière had thought it would be of interest to the Committee. If the Committee one day decided to include Switzerland in the programme of an interchange visit to be devoted to rural hygiene, Dr. Carrière thought that the persons taking part in it would find something of interest to study in his country and he would be very happy to welcome them.

Dr. BOUDREAU expressed to the members of the Committee his appreciation of the interesting and valuable comments presented. Their suggestions would be most useful in the preparation of future interchanges. Certain questions had arisen in regard to the interchange to be held this year, but, as most of them had been fully answered by the members of the Committee concerned, it would not be necessary to reply at any great length.

As had been suggested in his opening statement, certain members of the Committee regretted that the forthcoming interchange did not include Denmark and Great Britain. As regards Great Britain, Sir George Buchanan had already expressed his views, which were those held by the Section. Moreover, a visit to England for the purposes of a rural interchange would necessitate a preliminary period of two or three weeks in order to explain to the participants the very complex health organisation which had developed there during a very long period; this study would be necessary in order that the participants might be in a position to understand the application of health measures to rural districts. As regards Denmark, the President had invited the interchange to be organised next year to visit his country, and Dr. Boudreau had every reason to hope that such a visit would be possible.

Various useful suggestions had been made by Dr. Lutrario on the basis of the programme submitted. This text was, however, only provisional, and full account would be taken of these and other suggestions in the preparation of the final programme.

In reply to Professor Ottolenghi, Dr. Boudreau said that due account would be taken of the sanitary control of food products, a particularly interesting programme in this regard having been prepared in the Netherlands, through the kindness of Dr. Jitta.

With regard to the remarks of Dr. Chodzko, the Committee might rest assured that statistics would not be neglected. In fact, this interchange had been prepared from the beginning with this in mind, and statistics would assume a more important place than they had been given in any previous interchange. Due consideration would be given to statistics of morbidity and mortality, but, in addition, special care had been taken to secure statistics relating to the cost and results of public health measures.

It had also been suggested that the programme was too detailed and that it included points not directly related to rural hygiene. This was easy to understand in the light of experience with previous interchanges, which had shown that the participants must have some idea of the customs, traditions and life of the people in order that they might appreciate justly the measures that had been adopted and the results of those measures.

In the previous year, the chapter on the rural hygiene interchange in the Medical Director's report made no reference to the housing problem. Certain members of the Committee had pointed out the importance of including this question in the programme. For this reason, a visit had been arranged to model villages in France. It was not possible to study housing as a rural problem in France without taking account of these villages, and French authorities on housing had been unanimous on this point.

In regard to visits to preventoria and sanatoria, which Dr. Chodzko had suggested should be omitted from the programme because they were intended for an urban population, Dr. Boudreau pointed out that not only were these institutions located in rural territory but they were also intended almost solely to be of service to residents of rural districts.

He regretted that he had been unable, in the limited time at his disposal, to touch on a number of important points which, however, would be more fully dealt with in the final programme and report. For instance, the purification of public water supplies and its relation to the prevalence of typhoid fever would be thoroughly studied. The use of precise methods of treating water supplies with chlorine would be shown to the participants in several countries. Typhoid fever was still a major public health problem in many rural districts of Europe, and this problem would be given full consideration.

In conclusion, Dr. Boudreau pointed out that this was the first interchange for the study of rural hygiene organised by the Health Organisation. Dr. Chodzko had suggested that a doctrine should be established for this type of interchange, but perhaps, after the remarks made by other members, the Committee might agree that this infant should be given the fullest liberty to develop

in the light of experience, without such restrictions as must be imposed by the adoption of any fixed doctrine. It was only after the experience of several interchanges of this character that the Committee would be in a position to accept the course suggested by Dr. Chodzko, who would, he was sure, agree not to press this point.

FIFTH MEETING

Held on Thursday, May 3rd, 1928, at 3 p.m.

President: Dr. Th. MADSEN.

357. Earthquakes in Bulgaria and Greece: Telegram from Dr. Wroczynski.

Dr. RAJCHMAN said that he had just received a telegram from Dr. Wroczynski. He had approached the representatives of the Hungarian Health Service, whose co-operation was now secured. Dr. Kornel-Scholtz, Secretary of State for Health, had appointed a medical inspector and was sending a health column to the affected districts. The health service of the Kingdom of the Serbs, Croats and Slovenes had also decided to send sanitary inspectors.

358. Annual Report on the Work of the Health Organisation: Statement by Sir George Buchanan.

Sir George BUCHANAN desired to say a word in regard to the annual report for 1927, seeing that the whole question of these annual reports had, in past years, given rise to so much controversy not only in the Health Committee but even in the Assembly. The present report showed the great advantage gained by the procedure which had been laid down. It was an excellent summary of the work of the Health Organisation during the year, produced in good time to enable the administrations, as well as the Office international d'hygiène publique, to know what had been done and was proposed for the future.

Looking back to the ideas expressed some eight or nine years ago, at the time when the lines of new work of international co-operation on public health questions were being traced, it was gratifying to see how fully those ideas had now been translated into action in the Health Organisation of the League or at the Paris Office. The chief thing not fully foreseen at that time, perhaps, was the great development which had taken place, under the direction of the Medical Secretariat, in what he might term "fraternity" work. Originally the health work of the League had been regarded more in terms of an organisation for adjusting relations between public health administrations of different countries, and less from the point of view of the possibilities for personal association between public health workers as represented now by the interchanges, educational courses, and so on. The latter had proved specially advantageous not only to public health officers but to the League itself. Indeed, this "fraternity" work had been so useful and popular that there might even be some danger of letting it crowd out the duller and more detailed work of obtaining new knowledge in matters where new knowledge could only be obtained by combined effort. As regards expert enquiries, he had, in earlier years, thought much less of always working through missions and committees representing many nationalities than of enquiries undertaken, in accordance with an internationally agreed programme, by some particular body or institute on behalf of, and under subsidy from, the League. The standardising work done in London and Copenhagen was a good example of this system, and he would like to see it extended, if possible, in other directions.

He took the opportunity to refer to the importance of expert Commissions being closely associated with members of the Health Committee. Some of these expert Commissions included no members of that Committee, even as Rapporteurs. From this point of view, he had welcomed the reconstitution of the Commission on Education in Hygiène and Preventive Medicine and hoped that, at the next session, Professor Léon Bernard would give an account of its further work.

In conclusion, he referred to the way in which the progress made with different undertakings must be governed by a well-considered partition of the sum available for expert enquiries. He understood that, on this occasion, the Committee on the budget would present a total sum for the whole of this section of the work. During the present session, it was evident that a very large and variegated programme would be adopted, and it was essential in this connection for the

Committee to give some indication about the distribution of the total sum at its disposal. He hoped that the question of allotment would be taken up fully at the October session.

His observations were made without the intention of provoking debate or controversy, but because the presentation of the annual report seemed to be the one constitutional occasion for general observations of this kind.

359. **Examination of the Report of the Medical Director on the Work of the Health Organisation since the Last Session of the Committee** (continuation).

A. Service of Epidemiological Intelligence and Public Health Statistics.

Professor Ottolenghi noted the various changes, on which he congratulated Dr. Rajchman. He desired to recommend that the epidemiological reports and the general summaries should sometimes contain a certain amount of criticism or, at any rate, a warning, regarding the relative value of certain figures which sometimes created a wrong impression.

Dr. Rajchman would take account of this proposal as far as it was possible to do so. He himself realised the necessity of analysing certain figures, but such a work of correction was sometimes very difficult.

Dr. Lutrario noted that, at the moment, 140 seaports gave regular information to the Singapore Bureau, and that, in the first eleven months of 1927, it had been possible to notify the infection of 162 vessels. This was a remarkable result, on which he would congratulate Dr. Rajchman.

B. Interchanges: System of Liaison with the Health Administrations of the Various Countries.

Interchange in Italy.

Dr. Rajchman said he was unable at present to give definite details on the programme, since it had not yet been formally drafted.

In Italy, an endeavour was being made, in co-operation with the public Health Service, to organise an interchange visit of a somewhat different kind from those which had hitherto taken place. It was proposed to show the participants what were the various activities of the Public Health Service as a part of modern life. It had been decided to choose a town in the north, Turin, and one in the south, Naples, and three rural centres which would demonstrate health activity from the agricultural point of view. It had also been decided to attack certain special problems in certain districts, such as Calabria and Sardinia. Finally, it was obvious that an important part of the study tour would have to be devoted to the campaign against malaria.

This interchange visit, which would be particularly instructive, was to last about eight weeks. If, however, Dr. Boudreau had been right in pointing out that it was difficult only to visit England for a few days, since the English health system was extremely complicated, the same was *a fortiori* true when the Italian system came to be studied. A considerable reform in the health system, of which the author was a member of the Health Committee, had just taken place in Italy. Important legislation had been passed in recent years. There existed in Italy numerous organisations known as "Parastatale", whose duties and relations necessitated a fairly long study. The problems arising in Italy were very varied. It was for this reason that a Committee had been set up in the Ministry of Foreign Affairs to organise this interchange visit; the Departments of Agriculture, Public Works, Education, Labour, Finance, Child Welfare, etc., were also represented on this Committee.

Dr. Rajchman hoped that the group of interchange visitors would be picked men of the same quality as those who had visited Germany. The nominations which he had received up to the present led him to hope that this would be the case.

The principles on which agreement had been reached were the following. In the first place, an endeavour would be made not to overburden the programme, in order to leave the persons taking part in the interchange visit the time necessary for reflection. It was more difficult to do this in Italy than in many other countries, for it required much courage and devotion to duty to avoid spending time admiring the beauty of the towns and monuments. A week end had therefore been set aside during which the experiences gained in the course of the week would be discussed. Secondly, it was desired to organise a really effective exchange of ideas on health. With this intention, the participants would be asked to give lectures on certain aspects of the activity of the health administrations of their countries. Provision had been made for a lecture to be given in Turin on health in schools. The whole scheme would be minutely prepared by correspondence. In the third place, it would be useful to make use of this interchange visit in order to bring to the notice of Italian doctors in the towns visited, by means of a series of lectures, the work of the Health Organisation of the League of Nations.

Finally, there was a "Parastatale" organisation in Italy which was of great importance. This was known as the "Luce", which dealt with the cinema and which had been established in order to prepare very detailed information on the various public activities in Italy. This organisation possessed a complete film, 1,600 meters long, on the evolution and history of school hygiene, a film of 4,500 meters on the principal work undertaken against malaria, films on the housing problem, etc.

To sum up, this organisation now possessed a remarkable collection of films and served as a powerful organ of technical information. The interchange visit in Italy would be filmed beforehand by this society; the text of the lectures would be given on the film and illustrated by means of film pictures.

Dr. Rajchman hoped to be able to show, at the October session, a film on rural hygiene in various countries, the film in question on the interchange visit in Italy and, finally, a film on the Copenhagen Conference to illustrate the technical significance of work on serum diagnosis and suggesting recommendations of a practical and administrative character. The co-operation of the society "Luce" would be all the more useful in view of the fact that it had generously offered to prepare these films free of charge. Dr. Rajchman thought that the Health Committee should express its sincere gratitude to those who offered it this admirable means of documentation.

The Italian Government attached considerable importance to this interchange visit, and the Head of the Government had shown sufficient proof of this by granting an audience to Dr. Rajchman, during which he described to him the main lines of the Italian Government's health programme. The plan dealt with various aspects of preventive medicine; provision was made for maternity work, and a whole series of measures for the protection of the infant and the child of school age. It also comprised a very large programme of urban drainage, rural hygiene, internal colonisation, campaign against malaria and physical education.

Dr. Rajchman hoped to be able to submit a detailed report on this new method of organising interchanges at the October session.

The PRESIDENT was sure that all members of the Health Committee had listened with much satisfaction and interest to this statement, which gave them an opportunity of noting the great progress achieved in Italy, due, in very great measure, to the initiative of Dr. Lutrario. The Health Committee would also note with the greatest satisfaction the generous offer of the society "Luce" and the great interest shown by the Head of the Italian Government in the activity of the Health Committee.

Dr. LUTRARIO wished to express his satisfaction at the thought that this interchange visit would shortly take place, for it showed that his country had bridged the gap separating it from other countries where, up to the moment, far more frequent study tours had been organised. The members of the Public Health Service in Rome had had the pleasure of receiving the Medical Director, who had traversed the country from one end to the other at remarkable speed, had seen everything of real interest, had established fruitful connections everywhere and had left the best possible impression on the minds of everyone.

The Government attached considerable importance to the present enterprise, and the Prime Minister had shown this by putting it under his patronage and by establishing the centre of the interchange visit at the Ministry of Foreign Affairs, which worked in close collaboration with the Public Health Service. Dr. Lutrario could not enter into details of the programme. He was sure that, in any case, it differed in important respects from the programme of preceding visits, for it was not confined to the field of health. It covered the study of certain measures of a social character and of the various aspects of the life of the country. It was therefore a complex programme, and an endeavour would be made to facilitate its realisation by encouraging conferences, by organising propaganda by means of the cinema, and by preparing pamphlets on the system of interchange visits in order that the persons taking part might possess, in advance, a summary of the health activity in all directions.

Individual Missions.

Dr. TSURUMI made the following statement:

"In regard to the individual missions carried out under the auspices of our Health Organisation, I desire to say a few words.

"On the initiative of our distinguished Medical Director and with the approval of the Health Committee, an interchange of parasitological experts was carried out between Brazil and Japan, it being understood that the principle had been accepted by the two Governments.

"During the year 1926, Professor Fonçeca, of the Oswaldo Cruz Institute of Brazil, was the guest of my country, where he passed several months with the object of obtaining knowledge on the administration and the health institutions, more especially, the development of parasitology and the preventive measures taken in the campaign against parasitic diseases.

"On the Japanese side, Dr. Fujinami, Professor of Pathology and Parasitology at the University of Kyoto, went to Brazil in the spring of last year. During the time he spent in that country, he was able scientifically to study parasitic diseases among Japanese immigrants, thanks to the facilities offered by the Brazilian Government and, particularly, thanks to the good offices of our distinguished colleague, Professor Chagas.

"On behalf of my Government, I have therefore the honour to present my sincere thanks to the Brazilian Government, and especially to Professor Chagas.

"I think that the scientific work performed by Professor Fujinami has definitely cleared up the matter and has suggested to us, at the same time, what ought to be done in the future to achieve improvement, it being understood that the preventive measures in the campaign against parasitic diseases are not very difficult, if an endeavour is made to execute the recommendations of modern science."

Professor CHAGAS warmly thanked Dr. Tsurumi. The tour of his pupil, Professor Fonçeca, had been very profitable, especially from the point of view of the health campaign in Brazil and Japan. Further, the visit of the eminent parasitologist, Dr. Fujinami, had greatly interested the medical world in Brazil.

C. Commissions.

1. *Joint Commission of Experts for the Study of the Relations between Public Health Services and Health Insurance Organisations.*

Dr. Lutrario said that the Bill for compulsory insurance against tuberculosis had now become law in Italy.

Dr. Rajchman replied that the report would be amended in this sense.

Professor Jitta asked that the Netherlands should be invited to co-operate, for the Dutch Society for the Campaign against Tuberculosis had been in existence for thirty years. It could give and receive interesting information. He would be very glad to explain personally the aims of the League to this Dutch Society.

Dr. Rajchman thanked Professor Jitta for his suggestion.

2. *Malaria Commission.*

Dr. Lutrario explained the object of the next session of the Malaria Commission. It would discuss the general report of the Commission and the results of the trip to America. The meeting would be of the most general character possible. The malariologists from different parts of the world would have to be put in touch with each other, in order, if possible, to decide on a common doctrine and thus, perhaps, prevent a division in the Commission itself. He noted with pleasure that Italy was collaborating in two ways in the courses on malariology — through the High School in Rome and the experimental station established in collaboration with the Public Health Service. The courses at the School of Malaria at Rome would be both theoretical and practical, while at the experimental station they would deal with the practical application of the principles taught at the schools in Hamburg, London and Paris. On this occasion, he thought that it would be desirable to add Professor Schüffner to the members of the Malaria Commission.

Professor Jitta supported this proposal.

Sir George Buchanan wished all possible success to the Malaria Commission and to the large conference of malariologists from all over the world which had been arranged. If, however, its task consisted in trying to establish an international doctrine regarding the prevention of malaria, he feared that little of use would result. He believed that the Commission, instead of collecting together specialists, who would only say what was known before and who, on return to their countries, would merely maintain their own special notions, would do better work by making intensive enquiries on special points — for example, the value of the secondary alkaloids of quinine and the pathology of induced malaria.

Dr. Rajchman recalled that this proposal was not a new one. The Health Committee itself had decided at its October session, on the report of the Malaria Commission, that a general session should take place of which the object had been clearly defined. The methods for combating malaria had, for several years, given rise to long discussion. The moment had now come to crystallise results and to establish a common programme of study. There was no question of putting forward yet once more the various views which had been several times expressed. The duty of the Conference would be to discover within what limits it would be possible to achieve an agreement which could be immediately applied in practice.

Surgeon-General Cumming made the following statement:

" Memorandum regarding: 1. Report on a Tour of Investigation in the United States in 1927, by Colonel S. P. James and Professor N. H. Swellengrebel, Geneva, October 1927. 2. Preliminary Report on a Tour of Investigation in the United States in 1927 by Professor Swellengrebel, Geneva, February 28th, 1928.

" The United States Public Health Service and the health officers of the same States deeply appreciate the value of these very interesting analyses of the malaria problems of this country by the two eminent malariologists. It is stimulating and helpful to have a critical presentation and review of this type from a new and entirely independent viewpoint. It is unfortunate, but entirely understandable, that the two reports should express diametrically opposed views on many points.

" The reports simply reflect how wide a divergence of opinion may exist and how different may be the interpretations of various ' facts ' concerning the causes of the decline of this disease in the United States and the effectiveness of the measures which have been taken to reduce it. Such a conflict is inevitable in view of the method which the Commission used to gather its material.

" We venture to say that had the Commission undertaken to treat of the causes for decline and the effectiveness of different anti-malaria measures in all parts of Europe in a brief report based upon interviews with various interested persons — some scientifically informed, some not — and a digest of the voluminous European malaria literature, the same difficulty would have beset them. Support could be found for almost any opinion which it was desired to express. The inherent difficulties of the undertaking of the Commission are still more manifest when it is realised that its members were able to spend less than a month on this work, and that this trip was made in the month of June when the incidence of malaria is lowest. At the same time,

we are not unmindful of the practical impossibility of making thorough personal studies and observations at first hand because of the time and labour involved. These considerations should, however, place certain limitations upon the scope of the report and the choice of the material for presentation.

" To illustrate, it is not strange that both reports fail to give a true perspective of malaria incidence in the United States and the variety of the problems which are encountered. Both reports treat in some detail of the situation in the south-eastern United States, where *A. quadrimaculatus*, *A. crucians* and *A. punctipennis* are the predominating species, and where the social and economic conditions of the poor white and negro tenant farmer are involved. Neither report mentions the fact that there is a malaria problem in the lower Rio Grande Valley of Texas, one in southern and northern New Mexico, one in the Sacramento valley of California, each with its own peculiar economic and social conditions involving the Mexican, the Indian and the native white, and with the predominating species *A. maculipennis*, *A. pseudo-punctipennis*, *A. punctipennis* and even *A. albimanus*.

" Again, while the report of Colonel James and Professor Swellengrebel (1) finds that malaria has declined and disappeared without parallel decrease in anopheline density, that of Professor Swellengrebel (2) implies that quite the reverse has been true. While it is concluded in the former report that the anti-malaria work which has been done in this country has been without effect, Professor Swellengrebel is inclined to believe that this work has been effective because of differences in the biology of the principal vector in this country as compared with *A. maculipennis* in the Old World, etc.

" Because of these considerations, we suggest that a discussion of the incidence of malaria in this country, past and present, the factors concerned in its decline, the variety of conditions concerned in the problem in various parts of the country, and the effectiveness of the anti-malaria work which has been done, be reserved for some future report when the Commission shall have been able to make a more extended trip and shall have had a longer period of time for the accumulation of data, observation and analysis.

" We suggest that, at this time, the Commission confine itself to a short report confined strictly to the purpose for which the visit was made, as expressed on page 12 (James and Swellengrebel): ' The chief object of our visit to the United States was to collect information which might be useful in the anti-malaria work of Eastern European countries '.

" Such a report would then discuss those procedures and methods in anti-malaria work which have been found useful in this country, and the extent to which they may or may not be found applicable to European conditions — the ' standard treatment ' propaganda and its effect, the use of screening and its popularisation, the use of anti-larval measures about centres of population and on impounded waters, the use of paris-green dusting by aeroplane where economically applicable, the use of *Gambusia affinis*, educational and propaganda work, public health administration with particular reference to the county health unit in its relation to malaria, and similar topics.

" We feel sure that the Commission does not wish to place the weight of its authority upon conclusions hastily formed on the basis of conflicting and often insufficient data. If these conclusions should prove erroneous upon further investigation, such a report would then have proved an impediment rather than a help to the advance of knowledge. In like manner, should the judgment of the Commission concerning the ineffectiveness of our anti-malaria measures prove erroneous, the report might then have seriously impeded the rigorous prosecution of worthwhile work in this country and in Europe. "

The PRESIDENT thanked Surgeon-General Cumming for his interesting statement. He hoped that he would send an American malariologist to the Conference to be held in June. He would also express the hope that Professor Chagas would be able to remain in Europe for that Conference.

Surgeon-General CUMMING replied that he would send two or three American malariologists.

Professor CHAGAS said he would try to remain for the Conference in question.

Dr. LUTRARIO recalled that the Medical Director had already replied to the observations of Sir George Buchanan. This meeting had been called by the Health Committee, and there was no question of a strictly unitarian doctrine. The general report had given a courageous confirmation of the results of the work. There could be no doubt, however, that there were certain divergences of doctrine as regards the form rather than the substance of the report. No one had ever intended to say, for example, that anti-larval measures were not of importance. It had simply been desired to correct the excessive zeal of certain administrations which had regarded this as a universal panacea, and to point out that, in certain cases, anti-larval measures were insufficient in themselves. At the moment, it was a question of calling together specialists of various countries and of finding a solution for the problems raised.

As far as the statement of Surgeon-General Cumming was concerned, he would merely reply that the reports of Colonel James and of Professor Swellengrebel were only provisional and confidential. They had never had any idea of making a report, in the proper sense of the word, on the situation in the United States, and had contented themselves with displaying the information which they had collected in those parts of the territory which they had visited. The malariologists of the United States would come to the meeting, give it the benefit of their experience and their knowledge in drawing up a report which, instead of being an obstacle to the general campaign, would certainly lead to the best results.

Sir George BUCHANAN understood that the reports of Colonel James and Professor Swellengrebel were only a collection of manuscript notes, which had not been designed for publication. He thought that Colonel James never intended it to be circulated in its present form until it had

been revised by his colleagues in the United States, and wished to be able to modify it, or even withhold it from publication in the light of the American observations. Any correction and editing should be done amicably between the authors of these documents and their American colleagues. There was nothing to be gained by making the present report the occasion of a sort of bullfight at the Malariological Conference.

Dr. RAJCHMAN feared that it was too late to adopt the procedure proposed by Sir George Buchanan. There was no question of any dispute arising on the various theories. The next session of the Malaria Commission, however, must result in a frank and full discussion of the experiments conducted in the different countries. At the October session, the Health Committee had instructed him to forward the manuscript prepared by Colonel James and Professor Swellengrebel to all the correspondents and, especially, to the American members who had received a visit from the two enquirers, in order that suggestions might be obtained from them in regard to it. The report of Professor Swellengrebel had been distributed on his own responsibility. This document was the personal contribution of Professor Swellengrebel to a wide discussion in which he had been ready to take part in the most liberal spirit. There was no idea that the Conference on Malaria would restrict discussion to this report. It would consider the general conclusions reached by the Malaria Commission, among which would be found those expressed by Colonel James and Professor Swellengrebel. The object of this discussion would be to define the common field of agreement at the disposal of the various malariologists in order that practical conclusions might follow.

Dr. LUTRARIO wished to add that, not only were the reports confidential as he had said, and provisional, but they had not yet been discussed by the Malaria Commission, because it had been thought that this discussion should take place in the presence of American malariologists. In these circumstances, any sort of criticism would be premature.

M. VELGHE did not wish to prolong the discussion of this question, but thought it indispensable for it to be extended. It was quite a usual thing for two experts to hold different views on a scientific point or on the best way to organise a practical campaign against a disease. But that two experts should be sent to a country and should only collect insufficient information from it was a much more serious fact. He wondered whether sufficient preparations had been made for the journey in question. He thought that the enquirers had arrived at an unfortunate moment, that their stay had not been sufficiently prolonged and that they had collected information which was too summary in character. If this view were accepted, such a mistake could be avoided in the future, for it could not be admitted that experts sent on such a mission should not immediately approach the health administration of the country.

Dr. RAJCHMAN recalled that this journey had been discussed in great detail, as the result of which it had been decided that three members of the Committee, of whom one had been prevented from leaving at the last moment, should carry out a study-tour for which no fixed length had been determined. Everyone, on the contrary, had declared distinctly, on several occasions, that they would be happy if the persons concerned could remain in the United States for as long as was necessary.

In order to prepare the programme, the Section had got into touch immediately with Surgeon-General Cumming and the Rockefeller Foundation. The date of departure had had to be changed in order to meet the necessities of those concerned. Unhappily, this change of date had cut short the duration of the journey, and it had been necessary to adapt the programme at the outset to these new conditions. The American administration had given every possible facility to the representatives of the Health Organisation. It would obviously have been preferable for this mission to have lasted much longer, but this had been materially impossible and account should be taken of that fact.

Dr. LUTRARIO fully associated himself with this statement. Every possible step had been taken to ensure that the enquiry would be made under the best possible conditions.

M. VELGHE was glad to have afforded an opportunity for an explanation which must dissipate all doubt in the minds of the members of the Health Committee. He noted that, although a certain number of difficulties had occurred, the Secretariat and the Committee had not been at fault.

Surgeon-General CUMMING had only submitted this question so that criticisms might be forthcoming which might guide the future work of the Committee. Obviously, there could have been no question of changing the seasons, and it had been impossible to change the date at which malaria had broken out in order to take into account the personal requirements of the enquirers.

3. *Expert Commission on Sleeping-Sickness.*

Professor NOCHT had not yet been able to study in detail the final report of the International Committee. At first sight, however, he had been struck by the remarkable analogy between the recommendations of this report and those made by the Malaria Commission. The complete connection between malaria and sleeping-sickness had been very nearly established. Both were caused by protozoic organisms and transmitted by the stings of the carrying insects.

At the end of its study tours in Europe, the Malaria Commission had reached the conclusion that, in the first place, the persons suffering from the disease should be isolated and treated, and that the anti-larval campaign was only a secondary measure, which could not be successfully employed except in special conditions and in limited districts.

Till recently, no method worthy of any confidence had been found for treating sleeping-sickness. Three or four which might be of real worth were now in contemplation, and, in this

connection, the Commission also said that the isolation and treatment of persons suffering from the disease was the most important measure. It added that drainage measures in general were very costly and of little profit, if they were not under the control of a special expert. The almost complete analogy between these suggestions and the recommendations made concerning malaria, might afford an appreciable moral support to the Malaria Commission against the criticisms made of its conclusions.

Dr. LUTRARIO recalled that the Italian Government was one of those which had been invited to take part in the second Conference on Sleeping-Sickness. It was not, however, to be found in the list of those which had given an affirmative reply. This was due to a mere administrative delay, and Dr. Lutrario was sure that his Government would accept the invitation, as the question was of considerable interest to it, in so far as its African colonies were concerned.

Sir George BUCHANAN referred to the suggestion urging the establishment of a special committee of experts instructed to receive all accounts of the work undertaken by the various institutes and research centres and to examine publications. What was the scope of this suggestion?

Could information be given regarding the date and place of the meeting of the next Conference?

Dr. RAJCHMAN replied that these were questions that it was hoped would be examined by the Conference. The preliminary meeting of the heads of Colonial Offices would study the matter.

As far as the place of meeting and date of the Conference was concerned, he had not yet been informed that the Governments concerned had reached agreement.

4. *Permanent Commission on Standardisation of Biological and Serological Products.*

The discussion on this subject was adjourned.

D. ACTION TAKEN ON THE RESOLUTIONS OF THE ELEVENTH SESSION OF THE HEALTH COMMITTEE.

1. *Welfare of the Blind.*

Sir George BUCHANAN said that, as this enquiry was started on his own proposal, he ought to express his satisfaction that the authorities of the health services of the various countries mentioned in the report had responded so fully, and evidently considered the question one of general interest.

2. *Study of Deratisation.*

The discussion on this point was adjourned.

3. *Survey of Health Conditions of certain Islands of the Pacific.*

Dr. RAJCHMAN said that the latest information received caused him to contemplate the possibility of carrying out this survey. The French expert, Dr. Hermant, had already been appointed.

4. *Study of the International List of Causes of Death and Morbidity Statistics.*

Dr. JITTA thanked Dr. Rajchman and noted with satisfaction that the Health Committee and the International Institute of Statistics had come to an understanding on this matter. Would it not be useful to convene certain experts from the International Institute of Statistics to attend the meeting of the Commission of Expert Statisticians of the Health Organisation?

Dr. RAJCHMAN thought that, if the Health Committee were able to accept the suggestions made in the report, the Commission could consider the possibility of adopting a final resolution.

He read the following draft resolution:

" The Health Committee:

" Having considered the communication of the Minister for Foreign Affairs of the French Republic to the Secretary- General of the League of Nations, as well as the letter from the President of the International Institute of Statistics forwarding a resolution of its Cairo Conference:

" Recommends the adoption of the procedure proposed by the French Government to assure collaboration between the International Institute of Statistics and the Health Organisation of the League of Nations in the preparatory work for the forthcoming revision of the *International List of Causes of Death*;

" Requests the Medical Director to communicate this resolution to an early meeting of the Commission of Expert Statisticians and to take action for the purposes indicated. "

He hoped to convene this Commission in July or in the autumn. The date would depend on the preliminary investigations to be made into morbidity statistics. The primary object of the meeting

would be the study of those statistics. Dr. Rajchman would get into touch with M. Delatour as soon as the resolutions of the Committee had been approved by the Council.

M. Velghe was happy to agree to the draft resolution provided certain formal amendments were made in the text. He could congratulate Dr. Rajchman, who had successfully carried out these difficult negotiations.

Sir George Buchanan said that, in view of the circumstances, he felt able to agree to the draft resolution. It took account of the new situation resulting from the decision of the French Government to summon the next Conference, and to utilise the International Institute of Statistics as its agent for the preparatory work. He desired to refer to the following passage in the report: " If the Committee were to approve our suggestion, certain of the expert members would be nominated to co-operate with delegates of the International Institute of Statistics, who will jointly be responsible for the preparation of the material for the International Conference of 1929."

Textually this was correct, but the use of the word " jointly " in this paragraph should not be taken to mean that the Health Committee would be jointly responsible with the Institute for the organisation of this Conference. The Health Organisation might help, but the responsibility would be taken by the Institute of Statistics.

Dr. Rajchman replied in the affirmative.

Sir George Buchanan also wished to ask whether some member of the Health Committee — he suggested Dr. Hamel — could not take part in the work of the Expert Committee on morbidity statistics.

This question was one of very great importance, but he had always found it difficult to understand what was being done about it, and what basic principles were being followed. The nomination of a Rapporteur for the subject would be valuable. It was much more than a mere expert question, and required discussion from administrative points of view.

Dr. Rajchman replied that this proposal raised a point which he would rather leave out of the discussion. He would urge clearly and simply that Sir George Buchanan should not press his proposal. He would be wery glad for Dr. Hamel or any other member of the Health Committee to attend whatever special committee met. This Conference, however, would be presided over by Professor Westergaard, who should be considered the father of medical statistics on morbidity, and, moreover, the liaison between the Conference and the Secretariat would be guaranteed.

Sir George Buchanan said that, in view of this appeal and the late hour, he would not press for a discussion if his proposal were considered controversial.

E. Miscellaneous.

1. *Co-operation with the Greek Authorities and the Commission for the Settlement of Greek Refugees.*

Discussion on this point was adjourned.

2. *Physical Education.*

Professor Ottolenghi was interested in this question for several reasons. In the first place, he was dealing with it directly in his capacity as Director of a School for Physical Education in Italy; moreover, a National Institution (Opera Nazionale Balilla) existed which supervised the physical education of the young throughout the country and which would certainly be glad to learn the results of the enquiry made by the Health Section.

He had been particularly interested in the remarkable report of Professor Piazescki, which contained much valuable information. He had also been glad to discuss in detail with Professor Piazescki certain special points. The Medical Director stated in his report that the time had come to organise a small interchange of directors of schools. Before examining this proposal, he would ask Dr. Rajchman to explain clearly the aim and the programme of this interchange. He pointed out also that a document such as that prepared by Professor Piazescki, if completed as regards certain details, could be well used as a basis for discussion.

Dr. Rajchman expressed regret that he could only give very short explanations. The report stated that the interchange could take place during the second half of 1928 provided there was sufficient money in the budget. The budget, however, would certainly not make it possible to hold this interchange. He asked that the matter should be adjourned until October.

The President asked the Committee to adopt the report of the Medical Director and congratulated him on behalf of the Committee.

The report was adopted.

360. **Fumigation of Ships.**

Surgeon-General Cumming, Chairman of the Sub-Committee on Fumigation, submitted the following draft resolution:

"The Health Committee, having received the report of the Sub-Committee on the fumigation of ships:

"(*a*) Takes note with gratitude of the offer of co-operation made by Surgeon-General H. S. Cumming;

"(*b*) Authorises the Sub-Committee to make further recommendations to be submitted to the Permanent Committee of the Office international d'hygiène publique in this matter, as well as on the measures which may seem desirable and practicable to give effect to the proposals contained in the Medical Director's report;

"(*c*) The Medical Director, in consultation with the Bureau of the Committee, is authorised, if necessary, to give effect to conclusions adopted by the Sub-Committee in the interval before the next session."

The draft resolution was adopted.

361. **Action taken by the Health Committee regarding Article 8 of the Geneva Opium Convention of 1925 concerning Preparations containing Narcotics and which do not fall within the Scope of the Convention.**

Dr. CARRIÈRE, Chairman of the Committee of Experts, instructed by the Office international d'hygiène publique, in conformity with Article 18 of the Opium Convention of February 19th, 1925, to study this question, submitted the report of the Committee which had already been approved by the Committee of the Office international d'hygiène publique.

This report was very detailed and did not call for full explanations. It gave the provisional list, based on the information furnished by a certain number of States, of preparations containing narcotics which should not, in view of their composition, which prevented all illicit use, fall within the scope of the Convention. These various preparations had been collected and placed in an annex to the report in tables drawn up in alphabetical order and by each narcotic drug. The Committee of Experts had thought that they would be easier to consult than the report itself.

Unfortunately these tables contained a number of errors. It would, therefore, be preferable to delete them entirely.

With that reservation Dr. Carrière proposed that the Committee should adopt the report.

He added that Dr. Hamel was unable to accept the reservations put forward by the Committee of Experts in regard to No. 6 and No. 10 of the German list. (In the report preparations examined were classified according to lists furnished by the various States.) The two preparations could probably be accepted provisionally as was proposed by the German Government and the Committee would be free to submit the question once more to the Committee of Experts. The Committee would certainly have to meet again in the near future, in order to examine the proposals of those States which had not replied at the time it had held its first session.

Dr. RAJCHMAN pointed out that, if the Committee of Experts were to be called upon to re-examine the list, the Committee could not recommend the Council to communicate it to Governments. It would therefore be preferable to submit this list afresh to the Health Committee at its next session when it had been finally completed.

Dr. CARRIÈRE agreed.

Dr. RAJCHMAN pointed out that from the administrative point of view, the delay would not give rise to difficulty, as the Geneva Convention was not ratified.

This question was adjourned to the October session.

Dr. TSURUMI said that the Japanese Government was not able to give its final decision regarding Articles 8 and 10. It would, however, certainly accept this proposal.

The PRESIDENT said that the Health Committee was happy to leave to Dr. Carrière the direction of this work, which was becoming more and more difficult.

SIXTH MEETING

Held on Friday, May 4th, 1928, at 10 a. m.

President: Dr. Th. MADSEN.

The PRESIDENT welcomed Professor Léon Bernard.

362. **Consideration of the Draft Budget for the Year 1929.**

M. VELGHE submitted to the Committee the draft budget for 1929 (document A.4.1928.X. Extract). He wished to draw attention to two features of this document.

1. The figure for the 1929 budget was practically the same as that for 1928; this result was relatively satisfactory at a time of general restriction of expenditure. There should, however, be no dissimulation of the fact that the amount of the resources placed at the disposal of the

Committee erred on the side of exactness, and that in order to deal with the Committee's work it was desirable that the budget should be increased in the near future.

2. The actual form of the budget was new and, from the point of view of control, was much better than the previous form. The budget was divided into three parts, the first relating to the Committee, the Secretariat and the work of the Health Organisation; the second to the information service, technical work and the research work of the Organisation; and the third to the establishment of a liaison system between the different national public health services.

Dr. CARRIÈRE wished to point out that it would be of advantage to the members of the Committee to know by name the various officials with whom they were in touch.

Dr. RAJCHMAN replied that it would be contrary to the practice of the Secretariat to issue a document containing a list of the names of the officials of the Secretariat collaborating with the Committee. He would give all necessary explanations orally.

Sir George BUCHANAN, referring to Section 10, paragraph 1, recalled his remarks at the previous meeting. He realised that it was impossible, at the present moment, to know how the total credit for investigatory work would be distributed, in view of the fact that the Committee had decided to undertake new activities. He would, however, be grateful to the Bureau if it would, at the next session, make proposals for allotting the credit to the various activities.

M. VELGHE explained that the document submitted to the Committee was a draft budget intended for the Council and for the Assembly. For this reason, it was not possible at the present time to anticipate the general distribution of the total sum. Sir George would remember that, once the budget had been approved by the Assembly, the Health Committee would, at its October session, examine attentively the needs of each Commission and of each enquiry in hand, and it was at that time that definite information on the distribution of the credits might be obtained. He recalled that the Bureau of the Committee had always tried to satisfy everyone, as far as possible, but the sums asked by the various Chairmen of Commissions always exceeded the total credit, and it was necessary to curtail the work in different respects. Sir George would, he hoped, receive satisfaction at the autumn session, as had always been the case in the past.

The draft budget was adopted (Annex 6).

363. Work of the Permanent Standards Commission during its Session held at Frankfort: Report by the President.

The PRESIDENT submitted to the Committee two reports: (1) A report which he had prepared on the work of the session held at Frankfort (Annex 7); (2) A report of the Permanent Standards Commission (Annex 7*a*).

The session held at Frankfort had been the third of the principal sessions of the Commission. The first had been in London in 1921 and the second at Paris in 1922. Other less important sessions had taken place at Geneva. The diversity of the places chosen for these sessions emphasised the truly international character of the work of standardisation and its importance in the establishment of cordial relations between the different Institutes. Interest in the session at Frankfort had not been restricted to the participants, for the Municipality, the Prussian Government and the representatives of the Reich had been keenly interested. He thanked his German colleagues, and particularly Dr. Hamel, for the considerate attention that had been given to the sessions. In addition to the persons invited, several German scientists had followed the work of the Commission.

He added that the Commission had much regretted the absence of Dr. McCoy, who had taken so active a part in the preparatory work.

Anti-diphtheritic Serum.

In accordance with the resolution adopted at Paris 1922, the units of the Institutes of London, Frankfort, Paris and Washington had been compared with those of the Copenhagen Institute, and these comparisons had shown the identity of titre of this serum. The results obtained had proved that the continuation of these comparisons was useful and, indeed, almost necessary. In view of the results of Ramon's flocculation method, the Commission had decided to extend its investigations in this direction and to study the question of ascertaining by the flocculation method the value of anti-diphtheritic serum and of diphtheritic antigen. One of the difficulties was occasioned by the fact that use was made, not only of natural sera but also of refined sera, especially in the United States. Another very important question was that of the therapeutic power of anti-diphtheritic serum. Professor Louis Martin had made a suggestion regarding active immunisation against diphtheria by means of the anatoxin method employed in the United States and now introduced into France and other countries. It would be of great use if this anatoxin could be standardised.

Anti-tetanic Serum.

A unit had been adopted at the time of the 1926 session, and it had been decided that the Institutes of London, Paris and Frankfort should study this new unit in collaboration with the

Copenhagen Institute. It had been found that the units were absolutely identical and the Commission proposed to recommend the adoption of the anti-tetanic unit in question as the new international unit.

Anti-dysenteric Serum.

After a similar procedure, the comparisons had given concordant results, and the Commission proposed the adoption as an international unit of the standard unit prepared and distributed by the Copenhagen Institute.

The President added that a very interesting report had been presented to the Commission by Professor Shiga, which had shown that a serum of less than 300 units could not have therapeutic effects. The best method that could be recommended to the various establishments was to add a mixture of a sufficient quantity of Professor Shiga's serum in such a way as always to obtain the figure of 300 units.

The Committee might ask why the Standards Commission had delayed so long before presenting definite proposals for the adoption of an international unit. The reason was that it had seemed indispensable to assure the preservation by the Institutes of uniform units in order that it might be possible to proceed to international measures. It was necessary to make slow progress by stages so as to avoid all future error. The principle of the Commission had been to leave to the Governments and Institutes the choice of methods, which it did not wish to fix, since they were liable to change. For anti-tetanic serum, as for anti-dysenteric serum, there were very different methods. The essential point was that they should always relate to the unit adopted. In this respect, satisfaction had been given to the remarks of Surgeon-General Cumming at the previous meeting upon the disadvantages of excessive standardisation. It had been thought better in the interest of progress to leave complete freedom in the choice of methods.

Scarlet Fever.

Unfortunately, no great progress had been made in the direction of standardisation. Dr. Dale and Dr. McCoy had tried to reach agreement upon the units and the methods to be adopted, but the research undertaken in the United States, England, Germany and elsewhere had shown that it was not as yet possible to arrive at an agreement. It was not yet known whether the subcutaneous method or another should be used. All that was known was that the process was of use as regards therapeutics, but nothing was known of the means of standardisation. Agreement had been reached only upon the fact that it was unwise to use a serum unless it had been previously tested in a hospital.

In the United States it had seemed desirable to establish a standard serum, and a standard unit had been established by the Washington Bureau for use in the United States. In view of the present uncertainty, the Commission had thought that it would be well to obtain units of this serum for new comparisons. A resolution would be drafted in prudent terms, by which, without pronouncing upon the etiology of the malady or upon the methods of comparison, the Committee would ask the Washington Bureau to be so kind as to send the serum it had established. This Bureau was now prepared to send a certain quantity of its serum, and the President wished to thank it for this.

Anti-gangrenous Serum.

The use of this serum seemed to have spread greatly in the course of the last years, and it appeared that it might be possible to arrive one day at a unit. The Commission had decided to place this question upon the agenda of its next session.

Tuberculin.

The comparative studies undertaken, in accordance with the resolution adopted at Geneva in 1926, of the standards provided by the National Institute for Medical Research of London and by the Frankfort Institute had shown that these standards were of identical value. The President recalled the important work done by Dr. White in this respect. The National Institute had very kindly placed at the disposal of the Copenhagen Institute, which was charged with the distribution, a large quantity of standardised tuberculin, and there was ground to hope that an agreement would be reached in the near future.

Blood Groups.

The Commission had been invited to establish an international nomenclature, which was very important for clinics and for anthropological investigation. The President was glad to say that complete agreement had been reached between the various study Commissions. In order to facilitate the transition from the old to the new system, it had been decided to add the former names in brackets and to designate the blood groups by the letters O, A, B and AB. On the other hand, it had been suggested, for practical reasons, that the serum-test A (anti-B) should be distributed in white tubes, and the serum-test B (anti-A) in yellow tubes. This would be of convenience to doctors, who often had to make urgent blood transfusions.

Rabies.

The Commission had examined certain results of the Rabies Conference, with a view to the possible standardisation of the material used in the treatment of rabies. It considered that the proposals in this respect made by Dr. Remlinger, of the Pasteur Institute of Morocco, constituted useful methods of giving effect to these results.

Salvarsan.

The Committee had drawn a certain number of conclusions from the recommendations formulated at Geneva in 1925 with regard to the standards prepared by Professor Kolle and distributed by Dr. Dale for experimental research (see document C.H.717).

Digitalis.

The Health Committee would have learned with regret of the death of Professor Magnus, whose collaboration had been so valuable to the Permanent Standards Commission. Document C.H.717 contained very full details upon the question of digitalis.

Strophanthus.

The Commission had recommended that a sample of ouabain should be prepared and kept as an international standard for the biological assay of *strophanthus* and its preparations.

Scilla.

The Commission had decided to study the possibility of preparing a stable standard from a suitable dried sample of the drug.

Pituitary Extract.

The international standard, as adopted during the Conference held at Geneva in 1925, had given uniformly favourable results.

Insulin.

The Health Committee would be pleased to learn that the unit adopted and recommended in 1925 at t .e Geneva session was now in use all over the world as the only unit of insulin.

Thyroid Preparations.

No action had been taken in regard to these preparations.

Ergot.

The Commission had decided to endorse the recommendation of the Edinburgh Conference for the standardisation of ergot and its preparations by a method measuring its content of the specific alkaloid.

Anthelmintics.

The Commission had not made any new recommendations with regard to *Filix mas* or with regard to oil of chenopodium.

In conclusion, the President said that the Frankfort session had had very satisfactory results. After lengthy work and research, definite resolutions had been drafted with regard to certain important biological and serological products. The question that now arose was how to inform Governments and health administrations of the results obtained. It seemed that the best method would be to forward to the different administrations the proposals of the Standards Commission, accompanied by documentation upon the work accomplished. The results should also be made known to the medical profession, and for this purpose use might be made of the medical Press. For instance, certain special journals had requested their collaborators to use, in their articles upon blood groups, the international nomenclature established by the Commission. The Committee would no doubt agree in admitting that, while the work of the Health Organisation might be well known to the administrations, it was not so well known to the medical profession. It was necessary, therefore, to discover means of giving value to the work undertaken by the League. The President recalled that Dr. Voegtlin always applied the term " League units " to the units that had been standardised as a result of the work of the Commission.

Sir George BUCHANAN said that it had been his privilege after previous sessions of the Permanent Standards Commission to congratulate the Commission and its Chairman on the progress made. He was glad to do so again. This branch of work was in many respects a model; it represented progressive action year by year along a consistent line of policy and was of use to all nations.

It would no doubt be well that the work of the League of Nations in this respect should be more widely known, but perhaps this knowledge was more widespread than the President thought. The advantage already actually taken by the different countries of the units that had been standardised, thanks to the work of the Permanent Standards Commission, constituted the best advertisement of this branch of the work of the League of Nations.

The Committee would remember that, at the last session of the Assembly, this aspect of the work of the Health Organisation had been given special prominence and special reference was made by the British delegate to the fact that the International Conference on Pharmacopœial Standards had decided that it was useless to indicate in detail the tests which should be applied

to biological products or to drugs which required biological tests and that for each national pharmacopœia it would in future be sufficient to say that these products must conform with the units or definitions established by the League. It would be difficult to pay a more striking practical tribute to the work of the Permanent Standards Commission.

Professor Léon BERNARD also associated himself with the eulogies that had been addressed to the Permanent Standards Commission and to its eminent Chairman. He had had occasion in the course of the last few days to meet some of his French colleagues who had been present at the Frankfort meeting and he wished to express their gratitude for the welcome they had received. They had come back delighted, not only with their stay, but also with the work which had been done. It was for him a very pleasant duty to act as interpreter of these feelings to the Health Committee.

He had been very struck by the reflections with which the President had concluded his statement, reflections of a kind that he had often made himself. There were two points of view. No doubt prominence should be given to the work of the Health Committee in one of its most honourable activities, activities which were increasing in a demain in which the Committee was perhaps alone capable of obtaining such results. Truth, however, always made itself known in the end and some day science would know all that it owed to the work that had been undertaken under the ægis of Dr. Madsen.

The second and perhaps the most important, consideration was the need of ensuring that the work done would be utilised as widely as possible. Sir George Buchanan had said that at least a part of this work was in daily use. Perhaps this was not the case as regards all the work and, as the President had said, it was necessary to find a means of imposing the utilisation of this work by the force of reason.

By its very constitution the tendency of the Committee was to act through the mediation of Governments. It might be asked whether, in such a case, this was the only method possible. In the first place, there were certainly some Governments which did not concern themselves very seriously with the transmission of the Committee's recommendations to the competent organisations, and, further, in certain countries the scientific authorities considered everything emanating from the Government to be somewhat under suspicion, and therefore the fact that the work of the Health Committee had been transmitted by the Government would perhaps not be its best recommendation. In both cases the result was the same, that was to say, the work accomplished by the Committee was not known or utilised.

In addition to the use of the newspapers as a means of publicity, it would be well to arrange for direct communications between the Health Section and the different institutions, laboratories and scientists. He would recall in this connection the case of the studies on blood groups.

Dr. RAJCHMAN emphasised the importance of Professor Léon Bernard's remarks. The question had very much preoccupied the Secretariat and he agreed that it was necessary to adopt measures both to ensure the official transmission of documents to the Governments and interested institutions and to make these documents known to the whole medical profession. The Secretariat had discussed the matter with the President and its proposals were as follows:

The Secretariat would compile a *dossier* including the final recommendations of the Permanent Standards Commission, after their adoption by the Committee, and the documentation that had already been published regarding previous work. In this way, a technical *dossier* relating to each preparation would be provided. The whole of this documentation would be communicated with an official letter from the Secretary-General to the various Foreign Ministries, but at the same time the Secretariat, in its capacity as a Section concerned with health questions, would unofficially enter into communication with technicians and the official institutions entrusted with the control of the standards in the different countries. In fact, the recipients of both series of communications would very often be the same.

This, however, would not be sufficient, for there did not exist in all countries, even in the principal ones, special laboratories charged with the control of standards. The question now, therefore, was to place this documentation at the disposal of the scientific world. With this end in view, the Secretariat proposed to publish the various documents in the Press and in the technical reviews, while making a distinction between the two categories of questions — biological products and serological products — for the same scientists would not be concerned with both questions.

In the case of Germany, it was now practically understood that the results obtained with regard to biological products would be published in the *Records of Experimental Pharmacology*. As regards serological products, he thought that a publication of the same kind might be made.

In the case of France, the question might be debated at Paris in the following week, and he hoped that it would be possible to dedicate to this question a special number of, or a supplement to, the *Annales* of the Pasteur Institute, as had been done for the Conference on Rabies.

In the case of Great Britain, the Secretariat had not yet come to any conclusion, but it would try to achieve the same aim in consultation with Sir George Buchanan, Dr. Dale, and Sir Walter Fletcher.

In the case of the United States, it was hoped that similar arrangements could be concluded.

He was glad to announce that, thanks to the intervention of Dr. Hamel, an agreement had been reached with the most widely read weekly review in Germany, which was about to open a special column for the activity of the Health Organisation. Medical journals in other countries had done the same, and it would be well to recommend this example, which had already been given by Stockholm and Prague. The Secretariat would be grateful to any member of the Committee who might be able to obtain, in his own country in a systematic manner, the opening of a special

column each week upon the work of the Health Organisation. Perhaps this was the most important point of the propaganda through the Press, and he was convinced that there would be enough material each week to fill this column.

Further, the President had raised a question of detail which was of some practical and psychological importance. The question was how to make it known that the utilisation of the various international standards adopted was due to the Health Organisation. Perhaps inspiration might be found in the example of Dr. Voegtlin of the Hygiene Laboratory at Washington, who applied to the standards the term " League standards ". He would refrain from making a suggestion for French-speaking countries. Without addressing to Governments an official recommendation upon this subject, the Health Committee might insert a reference to it in its report.

Dr. TSURUMI wished to congratulate the President, who had directed with his usual skill the work of the Frankfort Conference, which had given such fruitful results. He also thanked the President for having invited to this Conference, at which he himself had been glad to be present, Dr. Nagayo and Dr. Hata. He was particularly glad to hear that definite results had been arrived at in the case of salvarsan and of anti-dysenteric serum, in the preparation of which Dr. Hata and Dr. Shiga had taken part.

Surgeon-General CUMMING wished to associate himself with the eulogies that had been addressed to the President and to the Permanent Standards Commission upon the splendid work that had been done in the course of the last six years — perhaps the most remarkable work of the Health Committee. The President had been too modest, and he might be assured that the work of the Health Organisation was widely known.

In connection with the remarks of the Medical Director, he proposed that the Committee should get into touch with the American Medical Association, whose journal was read by at least 98 per cent of the doctors of the United States. He would consult with Dr. Winslow as to the means of publishing the results obtained in the reports of the Public Health Administration.

He thanked the Committee for the attention it had given to the work of Dr. Dyer upon scarlatina, and he would point out, in this connection, that in the United States large quantities of serum of poor quality had been circulated. In the case of syphilis, the flocculation test had not yet been generally adopted. It had been accepted by the Navy on account of the convenience of its use aboard ships, but it was not in exclusive use in the Army. With regard to tuberculin, the work of Dr. White was continuing, and bacilli had been distributed in large quantities to the scientists of the various laboratories in the United States. It seemed that Dr. Johnston and Dr. Dale had isolated a substance which was the cause of the rise of temperature. He would make a further communication upon this subject later.

In the name of the public health specialists of the United States, he wished to take this opportunity of expressing the wish that the Permanent Standards Commission would hold, in the near future, a meeting in that country, where it could form an idea of the work that had been done.

The PRESIDENT warmly thanked Surgeon-General Cumming for his kind appreciation of the work of the Commission, in which American scientists had played so remarkable a part. He was sure that the Commission would accept with pleasure the invitation that had been offered, and he hoped that the means would be found for this purpose.

Professor Léon BERNARD said that he would endeavour to find in Paris a journal that would be willing to offer regular hospitality to the communications of the Health Organisation. It seemed to him that the most appropriate journal would be the *Presse Médicale*.

In connection with the suggestions of the President and of the Medical Director, he emphasised the value of adopting, for the designation of the units, a term that would recall the work done at Geneva. His colleague Dr. Winslow suggested the term " Geneva units ". It seemed that it would be well to use a word that was common to French and English, such as the word " nations". This point of detail should be decided.

Dr. JITTA, like his colleagues, wished warmly to praise the work of the President and of the Permanent Standards Commission. He also appreciated the initiative of Dr. Hamel, and he thought that the representatives of the small and even of the large countries would wish to follow this example. Would it not be possible for the Medical Director to prepare a *communiqué* in order that the editors of the medical journals might understand exactly what was asked of them ? For instance, if he were to receive a first *communiqué* of this kind, he would endeavour to ensure its appearance in the *Dutch Journal for the Study of Medicine*. Afterwards, it would be natural for the Secretariat to communicate directly with the editors.

Dr. CARRIÈRE asked whether it was only a question of a *communiqué* prepared by the Secretariat and transmitted by it to the journals.

Dr. RAJCHMAN replied that this would not necessarily be the case. It was necessary to obtain in the medical journals a special column for the activities of the Health Organisation, but this column might include either original articles, *communiqués* prepared by the Secretariat or reproductions of reports.

Dr. CARRIÈRE said that the two Swiss professional journals — one in German and the other in French — would certainly be glad to insert communications of this kind. His Service published a bulletin which had the advantage, from the point of view of publicity, of being sent gratuitously to all doctors. In this bulletin, a column could no doubt be reserved for communications on the work of the Health Organisation.

Professor OTTOLENGHI wished to associate himself, both in the name of Dr. Lutrario and in his own name, with the tribute that had been paid to the work accomplished by the Permanent

Standards Commission, under the chairmanship of Dr. Madsen. He had followed this work closely, and knew that it covered much more ground than appeared in the President's report, which dealt only with questions that had been definitely settled. For this reason, he did not wish for the moment to insist on his previous proposal concerning the serum against anthrax. He knew that the President had the matter in mind, and he hoped that it would be possible to give him satisfaction.

Italian scientists had taken great interest in the debates of the Health Committee, and in particular in those of the Permanent Standards Commission. They attached great importance to this work, which, moreover, was well known by the medical profession as a whole. He was therefore entirely at the disposal of the Committee for the publication of articles on this matter in Italian journals. Since, however, these journals, like those of all other countries were divided into two groups, papers which were read by all doctors, and reviews which were to be found particularly in scientific institutions, it might be better to draft differently the communications to be sent to the two groups.

The PRESIDENT thanked Professor Ottolenghi for his statement.

Sir George BUCHANAN said that in Great Britain the three principal weekly medical journals for this purpose were the *Lancet*, the *British Medical Journal* and the *Medical Officer*, which had a wide circulation among public health officers. He thought that these journals would be glad to receive any documentation upon the work of the Health Organisation, and to open a special column. If, however, these communications were sent to the journals direct from Geneva, it would be useful to the members of the Committee if they could receive copies at the same time and not see them first in the journals of their own countries.

The PRESIDENT thanked all his colleagues for the kind words that they had addressed to the Permanent Standards Commission and to its Chairman. He wished to reserve some of this praise for Dr. Dale, who had played so important a part in the work of standardisation.

The suggestions that had been made were very useful, and the Medical Director would not fail to bear them in mind. The President thanked in particular Surgeon-General Cumming for his promise to publish the result of the work of standardisation in the reports of the Public Health Department of the United States.

The report of the Permanent Standards Commission was adopted.

364. Anti-tuberculosis Vaccination: Proposal of Professor Calmette.

The PRESIDENT said that Professor Calmette had invited the Health Committee to examine the results of his anti-tuberculosis vaccination process. The President thought that this interesting invitation should be accepted, and he suggested that the meeting should take place in the autumn at the Pasteur Institute, which had been placed at the disposal of the meeting by Professor Calmette. The aim of the Conference would be the study of questions relating to anti-tuberculosis vaccination. This problem greatly preoccupied all public health administrations, and thus it seemed a particularly well-chosen moment for replying to the invitation made to the Committee.

Sir George BUCHANAN said that he had not known that this invitation had been made to the Health Committee. It was an interesting one, and he saw no objection to the Committee accepting it. He would, however, ask that, in accordance with the usual practice, the necessary arrangements should be agreed upon between the President and M. Velghe. The Office international d'hygiène publique had this same question already inscribed on the agenda of its coming session, and to this discussion all the members of the Office had been invited to contribute. Professor Calmette had promised himself to be present at these debates in Paris. Doubtless, there was room for two kinds of discussion, but care should be taken to avoid overlapping.

Professor Léon BERNARD thought that, while full account should be taken of the remarks of Sir George Buchanan, they were not in contradiction with Professor Calmette's proposal. The Health Committee had before it a definite offer. It was a matter of examining a truly scientific and technical question, which was connected with the studies pursued by the Committee upon subjects of the same kind. In these circumstances, it would be difficult to put on one side Professor Calmette's proposal, nor indeed was this Sir George Buchanan's idea. Moreover, the Office international formed a part, to some extent, of the Health Organisation. In order to avoid all misunderstanding, Professor Calmette's proposal should be accepted at once. He himself had lately seen Professor Calmette, and it was in his name, as well as in his own, that he expressed his eager desire that the suggested meeting should take place.

The question was ripe for immediate international debate. Important work had been done in connection with vaccine B.C.G., notably by German-speaking scientists in Germany and in Austria. Perhaps France was one of the countries in which the vaccination process raised most opposition. When the use of vaccine B.C.G. was supported by the authorities of other countries, and by the highest possible international authority upon health, a great service would have been rendered to French science itself.

Professor Calmette had asked, for reasons of convenience, that the meeting should take place at Paris, all the documentation — both French and foreign — being collected there.

With the reservation that agreement should be reached upon the details of the arrangements for the two discussions about to take place, in the Conference in question and at the Office international, he thought it very desirable to reply in the affirmative to Professor Calmette's invitation.

In reply to Sir George Buchanan, Dr. RAJCHMAN said that the two discussions would be quite different in character. The discussion suggested by Professor Calmette for October should rather be classified under the work of the Permanent Standards Commission, in that it would be a technical discussion. A similar case had occurred at the time of the studies of anti-diphtheritic serum. The Permanent Commission and the Office international had examined the same problem from different points of view. It did not seem that the time had yet come for the amalgamation of the two debates.

Professor OTTOLENGHI attached great importance to the question of anti-tuberculosis vaccination, and supported the proposal of Professor Calmette for a Conference at Paris for the study of the present position of the problem. The Medical Director's observations, however, were entirely in accord with his own ideas of the studies to be undertaken. He had thought that it was a question of studying at Paris the documents that had so far been collected by Professor Calmette and by other scientists. This idea had been confirmed by the remarks of Professor Léon Bernard, who had referred in particular to the work of German-speaking scientists.

Professor Léon BERNARD pointed out that other important work upon this subject had been done, notably at Milan.

Professor OTTOLENGHI added that, if the Medical Director's interpretation were correct, the question would be rather different. It would be a question of a technical problem relating to the dose of the vaccine rather than to vaccination itself. He wondered whether this was really the idea that Professor Calmette had in mind. In his opinion, the very important question of B.C.G. vaccination, with which he personally had been dealing for two years, could already be dealt with by the Committee, to whose interest it would be to begin the study of the facts already collected, in order to ascertain whether this vaccine had given good results in practice, whether it could be considered as inoffensive and what its value was as regards the campaign against the spread of tuberculosis. These were the most urgent questions which, in his view, could be submitted to the Conference.

Dr. RAJCHMAN begged to be excused for perhaps not having been quite clear in his explanations. There was at present no question of standardising the vaccine B. C. G. It was only a question of having a preliminary discussion of a technical kind between a number of experts and representatives of the medical institutions and laboratories to which Professor Calmette had entrusted cultures. Although, naturally, he could not yet say exactly what subjects would be discussed at Paris, he thought that, amongst others, the question of an experimental study of the effect of the vaccine on animals would be considered. This would be, in the first place, a purely technical discussion, which could not have any administrative consequences. The Conference would also establish a programme of work, which would be communicated to the Health Committee at its next session if, as he sincerely hoped, the meeting at Paris took place before that session.

The PRESIDENT entirely confirmed the explanations of the Medical Director.

The proposal of Professor Calmette was adopted.

365. **Collaboration with Latin America.**

Dr. RAJCHMAN recalled that, at its first meeting, the Committee had decided that the consideration of the remarks made by the South American members of the Council, at its forty-eighth session, upon the subject of more extensive collaboration with Latin America, should be adjourned to the meeting in which the general problem of collaboration with this continent was to be discussed. The question had been studied by the Bureau and in its name he submitted the following draft resolution:

"The Health Committee:

"Having considered the observations contained in the Minute of the meeting of the Council of the League of Nations held on March 5th, 1928:

"Requests the Medical Director to examine the suggestions offered in regard to collaboration with Latin-American countries and to present a report on the subject at the next session of the Committee."

There was another question to be considered and, in this connection, the Committee might congratulate itself upon the presence of Professor Chagas, as it would now be possible to reach a final conclusion.

As a result of the journey that the President and the Medical Director had made in Latin America, certain suggestions had been presented and discussed, notably in Brazil. In October 1927, the Committee had been informed of these suggestions, both by the President and by the Assembly. Upon his return from Latin America, the President had submitted a report to the Council and this report had been transmitted to the Assembly, which had approved the suggestions for technical collaboration with Latin America, and had decided to ask the Committee's advice upon the subject. The problem had thus come before the Committee at its October session, and the Committee had recommended the Council to enter into direct communication with the two Governments which had presented suggestions, namely, those of Brazil and the Argentine, as to the means of giving effect to these suggestions.

Professor Araoz Alfaro had not been able to be present at the session, and had asked that the consideration of the proposals regarding Buenos Aires should be adjourned until October. The suggestions made by Brazil were as follows:

In the first place, there was the question of public health instruction at Rio de Janeiro upon an international basis. Upon this particular point the letter of the Brazilian Government did not give any definite information, and thus it did not seem that the Health Committee was called upon to examine, at this session, the scheme for an international public health school at Rio de Janeiro.

In the second place, there was the question of the study of leprosy. Since April 1926, Professor Carlos Chagas had, upon several occasions, drawn the attention of the Committee to the international importance of this problem, and had presented various memoranda on the subject. Professor Chagas had been charged with the constitution of an international group for this study. He had also had consultations on the occasion of the Strasburg Congress, and had communicated a very interesting report by one of his collaborators who had had the opportunity of visiting seats of leprosy in very different countries.

On the other hand, it had appeared, from the discussions relating to Far-Eastern countries, and especially from the remarks of the members from Japan and from India, that this was a problem of world importance, which was worthy to be placed on the programme of work of the Health Committee. It was evident that, for the study of this problem, it was indispensable to have a co-ordination of effort. It had seemed most opportune to take advantage of the presence among the members of the Committee of three scientists particularly interested in this question, viz., Professor Chagas, Dr. Nagayo, and Colonel Graham, and to entrust to them the study of a programme of investigation into the question of leprosy to be undertaken in the different countries. It seemed that the studies fell into three categories.

1. In the first place, studies that might be considered as being in the province of research pure and simple, that was to say, questions which were scientific in character. It was evident — and this was the thesis of Professor Chagas — that the mechanism of the infection and of the contagion of leprosy still remained to be ascertained. It was necessary to obtain the attention of biologists, not only of specialists in leprosy, but also of those who were specialists in experimental medicine. Obviously, it would be difficult to co-ordinate such research. What was necessary was to provide the scientists with a field of study and to give them facilities and liberty for work.

2. Then came the question of precocious diagnosis, on which the measures against leprosy should be based. In this respect, there were various means of co-ordinating what had been done in the different countries, but the Medical Director was not competent to give details upon this subject.

3. The problem of treatment was capital. As in the case of syphilis, there was the double aspect, therapeutic and preventive. In this respect, it seemed that international co-ordination should give very interesting results. The institutes of experimental medicine for leprosy were unfortunately very few. He thought that an institute of some one country might be assisted and that its research might be facilitated in the different seats of leprosy. The necessary programme would be elaborated by the Committee of three persons that had just been mentioned. The Brazilian Government offered special facilities for these experimental studies; not only did it place at the disposal of the scientists the various institutes and leper-houses of Brazil, but it had also stated that the assistance of a centre of research in that country would be forthcoming; it would be difficult, even in other countries, to find a better base for these studies.

The Brazilian Government went further. It offered immediately to place on its budget an annual credit of 10,000 gold dollars for this research. Finally, a Brazilian philanthropist, whose name had often been mentioned in the Health Committee, M. Guinlé, also offered to give, at once, the same contribution. The facilities offered by the Brazilian Government would be administered by methods which that Government would study with Professor Chagas. Obviously, these were not questions for examination by the Health Committee.

The contribution of the Health Committee to the work undertaken would be the designation, in agreement with the various health administrations and of the Commission to be appointed, of one or more experts, according to the credits available and also according as it was possible to find such experts. The Committee would have the responsibility of their travelling expenses, their salaries and, in a certain degree, of the studies they would undertake. With this end in view, the Bureau submitted to the Committee the following draft resolution:

" The Health Committee:

" Recognising the international importance of the leprosy problem in view of: (1) the report of the President on his visits to Latin America and the Far East; (2) the reports presented by Professor Carlos Chagas since April 1926; and (3) the communications of the members from Japan and India;

" Decides to give at once, in its programme of work, a place to the study of leprosy suitable to its importance and to entrust to Professor Carlos Chagas, Colonel Graham and Professor Nagayo the preparation of a plan of international investigation of leprosy, requesting them to consult, in their countries, those experts whose opinion it would be desirable to obtain;

" Requests the Medical Director to get into touch with the public health services which have made the request, in order to discover the best method of organising an international enquiry.

" The Committee is pleased to note that the Federal Government of the United States of Brazil offers special facilities for the study of leprosy, and also learns with much satisfaction that, in addition to the funds which will be devoted to these studies by the Federal Government, M. Guinlé, founder of various sanitary undertakings in Brazil, offers an annual contribution equivalent to $10,000.

" The Committee is ready, within the limits of its possibilities, to designate one or more experts to collaborate in the study of leprosy with the public health services which request such collaboration, utilising particularly the facilities offered by the Federal Government of Brazil; and

" Recommends that the Council be requested to ask the public health services of the interested countries what they might be ready to contribute to the studies on leprosy in the way of facilities for investigation and financial support on the basis that the League is prepared to participate in the expenses occasioned by the nomination, travelling expenses and work of the experts designated by the Health Committee. "

Finally, the Committee should reply to the official letter of the Brazilian Government of which it had been informed. For this purpose, the Medical Director submitted the following draft resolution:

" The Health Committee:

" Having considered the reply of the Federal Government of the United States of Brazil to the letter by which the Secretary-General has communicated to that Government the Council's resolution regarding an arrangement to be examined by the Secretary-General, in consultation with the Governments of the Argentine and Brazil, whereby the schools and study centres to be organised in these two countries may be placed under the auspices of the League of Nations:

" Considers that it is not called upon at this session to consider the plan relating to the International School of Hygiene at Rio de Janeiro:

" Recommends that the Council of the League of Nations should adopt the detailed resolution concerning the study of leprosy, and that the high appreciation of the Committee should be expressed to M. Guinlé for the generous aid he is giving to these studies. "

Professor CHAGAS said that he had already had occasion to emphasise the world importance of the problem of leprosy. He had, at the same time, insisted upon the urgency of including this problem in the programme of the scientific activity of the Health Committee.

In the countries of Latin America, this was the most pressing question requiring the attention of the public health administrations and the work of scientists. He did not wish now to dwell upon the figures which would show the extent of leprosy in certain countries of this continent. In a previous report, he had submitted figures, as approximate as possible, of the incidence of leprosy in several of these countries. At present, he wished only to point out the insufficiency of prophylactic methods against leprosy, and the absolute impossibility of organising a scientific campaign against this malady in the districts where its incidence was very high. The reason for this state of things was that very little was known as yet of the biology of leprosy and even of its fundamental aspects, a knowledge of which would be indispensable to a scientific organisation of the fight against this disease.

The Medical Director had already emphasised two or three of the most important and urgent questions for examination by means of vast scientific study of international scope. In the first place, there was the determination of the contagiousness of leprosy. It was known that it was an infectious malady, but nothing was known of the conditions necessary to this contagion, and of the reason why numerous cases of leprosy, although not under sanitary control, had never constituted centres of diffusion, while other cases were very dangerous and gave rise to a very rapid diffusion of the malady. In consequence, from the point of view of prophylactic methods, there were important biological problems that urgently demanded elucidation. The absence of the biological method of precocious diagnosis was a considerable obstacle to prophylaxis. In most cases, the diagnosis was only established in the most advanced phases, that was to say, the prophylactic measures always came too late.

The question of therapeutics also constituted one of the principal points that should occupy the attention of the scientists of the whole world. Chaulmoogra had no doubt given appreciable results but no final solution was yet known; here too advantage should be taken of a great effort of internationa scientific activity in order to reach something more conclusive.

Obviously, there were many other points yet to be emphasised. He was sure that the Health Committee was now sufficiently enlightened upon the urgency of experimental research, not only for the systematisation of the present methods of the fight, but also for the discovery of new prophylactic weapons against this scourge. This was a problem for universal science, and it could not remain outside the interest of an international organisation such as the Health Organisation of the League.

For these reasons, he entirely supported the Medical Director's proposals. He would do his best to ensure the concurrence of his countrymen in the accomplishment of humanitarian work of so great a scope.

The PRESIDENT, in the name of the Health Committee, thanked Professor Chagas for his eloquent and interesting speech.

Surgeon-General CUMMING congratulated Professor Chagas upon his happy initiative in raising so interesting a question. Leprosy was a disease of great importance, not only for the United States and its Colonies but especially for the countries of Latin America. As the Pan-American Sanitary Bureau had undertaken research regarding leprosy, it would be well to keep it informed of the different plans adopted by the Health Committee, as these might exercise a considerable influence upon the decisions of the Bureau.

The Committee would be pleased to know that the American Congress had before it a Bill which had already been passed by one of the Houses and the object of which was the granting of an annual subsidy of $50,000 for the institution of laboratories, which would also be open to the

scientists of Latin-American countries who wished to undertake research into the question of leprosy. The great difficulty was not the question of funds but rather that of finding the necessary personnel. It was indispensable to co-ordinate all the work.

Dr. JITTA congratulated Professor Chagas upon his initiative in submitting the question of leprosy to the Health Committee and was glad that this question had been placed on the agenda. He expressed his admiration for the generous offers of the Governments of Brazil and of the United States of America and he thought that, at the beginning of its work, the Committee might congratulate itself upon such a result. He took special interest in this problem because leprosy, although unknown in the Netherlands, was frequent in the Netherlands East Indies and especially in the West Indies. He was sure that his compatriots would take a lively interest in this work and that Dutch specialists would be eager to participate in the research.

Dr. Jitta asked that, in paragraph 2 of the draft resolution, the words " in their countries " should be omitted. It might well be that the three experts in question would not wish to restrict their consultations to the scientists of their respective countries.

This suggestion was approved.

Dr. NAGAYO accepted with pleasure the invitation to participate in the international study of leprosy. There were in Japan a certain number of experts who had dealt with this question for several years and upon his return to his country, he would call a meeting of these experts for a thorough discussion of the problem. He would also be very pleased to collaborate in the investigations of Professor Chagas and Colonel Graham.

Colonel GRAHAM said that, at present, this question was the object of research in different parts of the world: in Japan, the Philippines, India, Australia and the Netherlands Indies. None the less, it was clear that there was a lack of co-ordination and that it would be well to know exactly what the position was.

As regards India, three years ago, he had himself presented to the Office international d'hygiène publique a report upon the question of leprosy in his country. Four years ago, an appeal had been made in London by the British Empire Leprosy Association for a subscription to the fight against this disease. The subscription had amounted to a large sum which had been used in the combat against this scourge in the British Colonies and Dominions. India had not had a share in this distribution of funds because, in that country, there was a separate branch of the Association in question. This branch had made a special appeal, which had resulted in a subscription of more than £7,000. The programme for the present year had been decided upon by the Council of the Association in consultation with a Committee of medical experts. He did not think that this programme should now be changed. He would suggest, however, that the experts of the Health Committee should get into touch with the competent authorities in India so that, on the one hand, the research made in India might be communicated to the Committee and, on the other, the scientists who worked in India upon the question of leprosy might receive any directions which the Committee might wish to give them.

Dr. LUTRARIO expressed his pleasure with the proposals that had been made. The Health Committee had before it a programme of very great scope, in which he himself took a special interest on account of the bonds of sentiment and of blood existing between Italy and Transatlantic countries. The question was all the more interesting for Italy because there were in Latin America several million Italians, and certain of these emigrants returned to Italy afflicted with leprosy.

The Medical Director had drawn the attention of the Committee to the Minutes of the forty-eighth session of the Council. The remarks made by such eminent persons as the British and Japanese representatives had caused him to read very closely the observations made in the Council, and he wondered whether the Health Committee could now adopt a firm resolution, in view of the numerous tasks that had been entrusted to the Secretary-General and which, it seemed, had not yet been completed. For this reason, he supported the wise proposal of the Medical Director to postpone the question and present at the next session a report upon the means of giving effect to this plan.

Referring to the draft resolution, Dr. Lutrario proposed that the third paragraph should be completed as follows: " The countries which have made or will make the request ".

This amendment was approved.

Dr. LUTRARIO, referring to the collaboration of experts in the study of leprosy, asked that the Committee should communicate for this purpose with the health administration of Italy, in view of the special interest of that country in leprosy.

Sir George BUCHANAN remarked that, at the beginning of this session, when dealing with cancer and variola, some members of the Committee had been apprehensive about undertaking new lines of investigation and, in particular, had urged caution and prudence in any matters relating to research or treatment. On consideration of the programmes which, at a later stage, had been adopted for research into plague and tuberculosis, and that which was now before the Committee for leprosy, it seemed to him that these counsels had been rather less in evidence as the session progressed. He was, however, prepared to accept the view that this wide study of leprosy might be useful from several standpoints. If it were taken up, he felt sure that the Health Committee could not be in better hands than those of its three members who were to constitute the proposed Commission. He suggested that Surgeon-General Cumming might be asked to join that Commission.

This suggestion was approved.

The draft resolutions submitted by the Medical Director were adopted, subject to the above amendments.

Dr. RAJCHMAN said that he would be very pleased to communicate with the General Directorate of Health in Italy for the purpose indicated by Dr. Lutrario. He would also communicate with Surgeon-General Cumming with regard to the work done by the Pan-American Health Bureau.

SEVENTH MEETING

Held on Friday, May 4th, 1928, at 4 p.m.

President: Dr. Th. MADSEN.

366. Health Conditions in Greece: General Statement by Dr. Copanaris, Director of Public Health.

The PRESIDENT welcomed Dr. Copanaris, Director of Public Health in Greece, and invited him to come to the table of the Committee.

Dr. COPANARIS said that he was very happy to accept the invitation sent to him to come before the Health Committee of the League of Nations and describe the health situation in his country. He asked the members of the Health Committee to accept his thanks for the considerable interest they had shown in health problems in his country, and recalled the part played by the Health Organisation in the installation, in a country which was ravaged by long years of war, of a modern health system.

The evolution of the health services in Greece since the addition of Macedonia to that country could be divided into two main periods.

The first period covered the years 1912 to 1922 and the second from 1922 to the present day.

First Period.

It was in 1912 to 1913, at the time of the Balkan wars, that the first tendency to organise the health services on a technical basis was to be noted in Greece. At that time, the need for a health organisation had made itself felt, especially in the case of Macedonia. The Health Bureau of Macedonia had then been set up as an independent organisation, comprising a bacteriological institute and travelling laboratories. State doctors, chosen from among the best qualified from the point of view of their clinical and bacteriological knowledge, had been established in the chief towns of the department. Disinfecting stations had been set up in the most important centres of Macedonia, and a medical service covering even the small villages had been organised. The situation had rapidly improved during that period, thanks to the organisation which he had described.

The great epidemic of cholera which had raged during the year 1913 had caused far less harm among the civil and military population of Macedonia than among the neighbouring belligerent nations also attacked by that disease, thanks to vaccination, which had been applied for the first time on a scale sufficient to demonstrate its efficacy.

Smallpox which, up to that moment, had been the cause of frequent epidemics, had been rapidly subdued, and the great Serbian epidemic of exanthematic typhus of 1914 and 1915 had been stamped out, despite the permanent communications existing with the infected countries, without it having been necessary to have recourse to quarantine, but merely by the working of observation posts and delousing stations.

The Macedonian Bureau had studied at that time the problem of malaria and had drawn up an epidemiological map which had been of great assistance to the Allied forces. It was at that time also that the first efforts to set up an anti-tuberculosis campaign had been made.

He would not insist at the moment on prophylaxis against plague, on the improvement in the drinking-water supply in a certain number of towns, on the progress of general health or on the medical and prophylactic assistance given to refugees, of whom more than 200,000 had come from Thrace, Asia Minor and the Caucasus.

He agreed that the health services of the Allied troops had had a considerable influence on the health administration in Greece and, in general, on the state of health in Macedonia. The support of these services had not been merely material, it had also been moral. The Inter-Allied Macedonian Commission was established in 1915, due to the initiative of Doctor Ruotte, Director of the Health Service of the French Army, and Surgeon-General MacPherson, Director-General of the Health Service of the British Army. That Commission had settled all epidemiological questions as far as the army and the civilian population were concerned. It had met every week and had shown a spirit of remarkable co-operation. All the Allied epidemiologists had had a considerable influence on the public health of Greece.

Second Period.

After the disaster in Asia Minor, 1,500,000 refugees fled to Greece, coming from Asia Minor and Thrace. They had had a great influence on the situation, and completely changed the health conditions of certain districts in Greece, making it necessary to establish one single health service

for the whole State. The need for such a service had already been felt since 1913. In 1922, the Ministry of Health, Public Assistance and Health Insurance was established. In 1923, the health administration was attached to this Ministry, which co-ordinated all the public health activities in Greece, (with the exception of health in schools), and in 1924 began systematic work. Attached to the Health Bureau were the institutes of bacteriology, chemistry (inspection of foodstuffs), anti-rabies institutes and institutes engaged in the preparation of vaccine for various diseases. The quarantine stations for all ports were also attached to that Bureau (Kara Bournou in the case of Salonica, and St. George in the case of the Piræus). From 1923 to 1924, 300,000 refugees were disinfected, deloused inoculated with anti-smallpox and anti-typhoid vaccine and subjected to medical examination in these stations.

The territory was divided into thirty-five health districts, coinciding with the official prefectures and placed under the control of a doctor belonging to the public health service. These doctors were chosen from among those most qualified in the field of public health and epidemiology. Efforts, too, were made to co-ordinate the organisation of rural health services in co-operation with the communes, where, during the last two years, more than 400 doctors have been working under the direction and control of the State departmental doctor with a view to improving the general health conditions in villages and furnishing medical aid to the inhabitants. Each commune was required to appoint a doctor chosen by the communal council and paid for by that council.

A campaign was organised against plague in Salonica, the Piræus and Patras and in all other ports. A campaign of compulsory anti-smallpox vaccination and revaccination (from the age of one to six years) was carried out throughout the whole territory, and each year about 1,200,000 vaccinations took place, carried out by communal doctors, the doctors attached to the refugees, the State doctors and the doctors in charge of schools.

Notification of serious infectious diseases was compulsory.

Measures were taken to improve the water supply not only in the large towns but also in the numerous villages. Finally, an attempt at anti-typhoid vaccine was carried out on a large scale.

In addition to this effort to systematise the campaign against epidemics, numerous schemes were set afoot for the construction of hospitals and general dispensaries. Since the year 1925, more than 90.000 sick persons had received medical attention in the State hospitals.

The refugees enjoyed special medical assistance throughout the State, both in towns and in the country, and medicines were given them free of charge.

The Refugee Settlement Commission which had built villages in Macedonia had two years previously set up general dispensaries in these villages and provided doctors and assistants.

The result of this considerable health effort was encouraging. The disappearance of all grave epidemic diseases had been noted, such as smallpox, exanthematic typhus, plague, etc. There was also a considerable reduction in the mortality figures, as was shown by the following table:

Year	General mortality	
1923	20.5 ‰	Figures for the ten largest towns in the State.
1924	19.83 ‰	
1925	10.92 ‰	Figures for nearly all the population.
1926	10.02 ‰	

He did not pretend that these statistics were as complete, accurate and perfect as they might be, but they gave a fairly clear idea of the extent of the mortality in Greece.

As far as the campaign against social diseases was concerned, the Greek Government concentrated especially on the prophylaxis of malaria and tuberculosis.

He would pass now to the problems of child welfare and the campaign against venereal disease, trachoma and leprosy

The Patriotic League for Child Welfare, controlled and subsidised by the State, was establishing special posts for treating healthy and sick children (Athens, the Piræus and Salonica) and was carrying on an active propaganda in the interests of child welfare. Since 1926, a law had been passed dealing with assistance to mothers and children. By the terms of this law, the mother and the child up to the age of two years were placed under the protection of the State.

The campaign against venereal disease had been marked by the improvement of health conditions (dispensaries, specialists, etc.) in villages where congenital syphilis was very prevalent, by the adhesion of Greece to the Brussels Convention regarding the establishment of dispensaries for sailors and by the establishment of numerous anti-venereal dispensaries, among others the creation in 1927 of a dispensary at the Piræus for Greek and foreign sailors, which could be said to be a model of its kind.

As far as prostitution was concerned, the present tendency was to apply the system of regulation, and gradual progress was being made towards abolition, which could not, however, be introduced until later, when popular education was sufficiently advanced.

The campaign against trachoma had been actively carried on, as the result of the large invasion of infected refugees from Asia Minor.

As far as the distribution and frequency of leprosy in Greece was concerned, a preliminary attempt had been made to send nearly all the lepers into the existing leper stations. An effort had also been made to improve these stations, and a specialist had been sent to India (Calcutta), the Philippines and Ceylon to study methods of treating leprosy. The Rogers method, applied in Greece, seemed to give good results. The establishment of dispensaries was contemplated.

He should point out that Greece had signed the Geneva Convention regarding opium and other dangerous drugs and had just passed a law making the sale of drugs containing narcotics a State monopoly.

The health services were co-operating with all voluntary organisations dealing with health propaganda and were anxiously considering questions of popular education, mainly in connection with social diseases.

The Administration had also succeeded in establishing co-operation between the health service and the Greek Pasteur Institute for the detailed scientific investigation of certain diseases of general interest, such as kala-azar, oriental sores and leprosy.

The working and evolution of the Greek health service had been greatly influenced by the Health Organisation of the League of Nations, thanks to the various missions which had visited Greece, to the epidemiological service, to interchange visits, and mainly thanks to the current of international opinion created by the Health Organisation in favour of the development of the health service.

In the name of his Government in general, and in his own name, he desired to express his thanks for the moral support which the Health Organisation of the League had afforded him. He submitted this account of the Greek health organisation to the members of the Committee, from whom he would be happy to receive any criticism or suggestions in regard to the health measures applied in Greece.

He had tried to direct the organisation of this service in conformity with the principles of modern hygiene, taking into account the economic and social conditions of the country, its customs and institutions and especially the trend of public opinion.

Note on Malaria in Greece.

Dr. Copanaris read the following note:

"It is no exaggeration to say that there has been a decrease in malaria in Greece during the last four years. It is only necessary to examine the statistics collected up to date to prove this. The statistics show that the morbidity has fallen from 32 to 16 per thousand for the whole population of the country.

"As far as mortality is concerned, 2,750 deaths from malaria in ten big cities occurred in 1923, or 87.17 per thousand of the whole mortality and 1.74 per thousand of the whole population.

"In 1924, 1,562 deaths were recorded, or 54.64 per thousand of the general mortality and 1.08 per thousand of the whole population of these ten large towns.

"In 1925, out of almost the whole population of the country, 3,389 deaths from malaria were registered, or 52.64 per thousand of the general mortality and 0.57 per thousand of the whole population.

"In 1926, out of almost the whole population, 2,427 deaths from malaria were registered, or 48.09 per thousand of the general mortality and 0.49 per thousand of the whole population.

"The Health Organisation of the League of Nations already knows, from the reports of the Malaria Commission, which visited Greece at the beginning of the summer of 1924 and paid particular attention to Macedonia, what is the extent of malaria, the state of health of the refugees and the ravages caused by this scourge. You will find in these reports all the information necessary to enable you to form an idea of the extent and gravity of the situation at that moment. It would be useless for me to insist further on what is already more or less known to you all.

"The reason why I am eager to bring to your notice the improvement which has since supervened is because it is with great pleasure that I can state at the same time that this favourable change must be attributed to two factors said by the Malaria Commission to be the principal means for carrying out an effective campaign against this disease. These factors are: (1) improvement in the conditions of social life and health of the population; (2) the systematic and methodical use of quinine (see the pamphlet on the principles and method of the anti-malarial campaign in Europe, Second General Report of the Malaria Commission). The other factors of the anti-malarial campaign, that is to say, the drainage of the soil and the war against mosquitoes, have not been used by us on a wide scale, which means that, generally speaking, we can attribute the improvement noticed after four years to the above-mentioned factors only.

"On the other hand, improvement in housing conditions, in general living and in the resources of a mass of refugees living in the fields, an improvement which has been due almost entirely to the methodical efforts of the Refugee Settlement Commission, was prompt and, if I may use the expression, hardly hoped for. Assuredly, the results would have been more satisfactory if the administration of quinine had been placed on an absolutely systematic basis in the campaign against malaria, and if it had been possible to obtain larger quantities of this precious drug and to employ it more methodically.

"It is true that the figures for morbidity and mortality are still very high and show that malaria still constitutes a great danger for the vitality, financial development and social progress of the Hellenic race, and particularly of the refugees. Everything, however, which is now being done in the agricultural districts is very reassuring, and allows us to hope that, if the necessary quantity of quinine is available, and if every possible measure is taken to administer it methodically and more systematically to inhabitants suffering from malaria, it would be right to count immediately on a still more striking decrease in the morbidity and mortality due to malaria. The establishment in affected districts of anti-malaria diagnosis stations, epidemiological stations and stations for the study of conditions in each department would do much to facilitate our efforts in the campaign against malaria, and would assuredly result in the progressive suppression of the disease, provided that the drainage of the soil and of the marshes is not simultaneously neglected."

Note on Tuberculosis in Greece.

Dr. Copanaris read the following statement:

" Such statistics as we have been able to collect show that the mortality rate due to tuberculosis is still very high. In the ten principal towns of Greece, 3,913 deaths were ascribed to tuberculosis in 1923, equivalent to 2.48 per thousand of the population of these towns. In 1924, there were 3,247 deaths, or 2.25 per thousand of the population of these same towns. For 1925 and 1926, statistics are available for almost the whole country. In 1925, there were 6,863 deaths from tuberculosis, or 1.11 per thousand of the total population of the country, and in 1926, 5,749 deaths, or 1.16 per thousand.

" Incomplete as they are, these figures are eloquent. They show that the proportion of deaths caused by tuberculosis continues to be very large and that the morbidity caused by that disease is very great and very widespread.

" It is well known that Greece has suffered much from tuberculosis during the last ten years, the period during which the evil consequences of the world war have been apparent. But it is especially from 1922 onwards, that is to say, after the close of the last war, and following on the return to Greece of so many Greeks who have had to leave their homes in Asia Minor, on the Black Sea and in Thrace, that the extension of the disease has become much greater. The poor conditions of health of these masses of refugees, destitute of all care, comfort and means of livelihood, shelterless, with insufficient food, and living in conditions of unparalleled overcrowding, are sufficient explanation for the spread of the disease. In addition to all this, suitable provision for the isolation of tuberculous patients, especially those suffering from open tuberculosis, in tuberculosis hospitals or sanatoria has been lacking.

" However, as the conditions of life of the refugees have improved — and this improvement is due chiefly to the work undertaken by the Commission for the Establishment of Refugees — it has been noted that the prevalence of the disease has ceased to increase. All the same, the morbidity and mortality rates continue at a high level, especially in the large towns, where a large number of refugees are still living in conditions excessively favourable to the spread of infection. It is hardly likely that a change in these conditions will be possible in the near future, and so an early and considerable fall in the mortality can hardly be expected.

" The question arises, Are the resources of the health service at the present time sufficient to do everything possible to arrest the further progress of the disease, in view of the general conditions of life of the refugees and of the poorer classes ?

" The Greek Government, during the financial year 1926-27, spent 33,900,000 drachmæ on anti-tuberculosis work and 49,858,000 drachmæ in 1927-28 — in other words, one-third of the total public health budget. These sums have been devoted to the upkeep of 1,390 beds in tuberculosis hospitals or sanatoria, for the construction of new anti-tuberculosis establishments, for the upkeep of tuberculosis dispensaries and for propaganda against tuberculosis. At the present time, other hospitals are being organised or constructed, with a total capacity of 900 beds. In addition to these governmental activities, mention should be made of the work of the Panhellenic Anti-tuberculosis Society, of the Anti-tuberculosis Society, of the Greek Red Cross, of open-air colonies for children organised by the Patriotic League and by the Ministry of Public Instruction. All these institutions, in addition to anti-tuberculosis propaganda work on which they are engaged, support clinics, for the diagnosis of the disease, in several towns. The municipalities, communes, welfare organisations, as well as private initiative, provide the upkeep for an additional 500 beds for tuberculosis patients.

" It will be seen that the means available for the campaign against this social disease are quite insufficient if compared with the widespread nature of that disease and with the miserable conditions in which so many people infected with tuberculosis are compelled to live, especially in the great towns. A large proportion of those suffering from open tuberculosis, especially among the refugees, live in direct and permanent contact with their relatives, under the same roof, in such conditions of overcrowding as to make the application of even the most simple prophylactic measures altogether impossible. This explains the persistence of the disease. If further extension is to be prevented and the disease confined within its present limits, heroic measures will be necessary to supplement the settlement of the refugees, the improvement in their conditions of life and health propaganda. The need is urgent.

" It should be clearly understood that in our towns the refugee and original population are now so intermingled that it is impossible to consider one or other of these sections of the population alone in a campaign directed against tuberculosis.

" The essential principles of a general anti-tuberculosis programme adapted to the present conditions are relatively simple. The objects in view are likewise clear. These I shall indicate below; it would, of course, take too long to enter into a discussion of practical details of application. The chief desiderata are:

" 1. The creation of a central organisation to co-ordinate the work of public authorities, private organisations (Panhellenic Society, Anti-tuberculosis Society, Red Cross Society, Patriotic League, Open-air colonies, etc.) and, if possible, of the Refugee Settlement Commission, under the general direction of the Public Health Department of the State. These various interests should be represented on a central committee.

" 2. The ultimate division of the country into regions, each possessing a well-equipped anti-tuberculosis dispensary, provided with a qualified medical officer and visiting nurses especially trained in medico-social work. In a word, the creation of anti-tuberculosis dispensaries on modern

accepted lines. The work of public services and private organisations should be co-ordinated in the different dispensary areas, and liaison between the different dispensaries assured. The different dispensary areas should be determined by the State and endowed with sufficient financial resources.

"3. Intensive action should be limited at the beginning to the worst-infected areas, that is to say, to Athens, the Piræus, Salonica, Cavalla and Patras, where certain anti-tuberculosis institutions already exist.

"4. An increase of the number of beds available for tuberculosis, which entails the creation of new hospitals and sanatoria in satisfactory conditions. At present we are very far short of the American standard, which provides one bed for each death.

"5. The protection of the infant, according to the principles laid down by Professor Gaucher and Professor Léon Bernard, and further development of the work already done with regard to the experimental immunisation of the newly-born.

"6. The creation of tuberculosis villages. The Refugee Settlement Commission has constructed and is constructing very numerous villages for refugees, in which work due regard has been paid to health conditions. It is suggested that the Commission be invited to consider the possibility of erecting, or setting aside, certain villages in specially selected sites for sufferers from or those threatened with tuberculosis. In this manner, a more or less massive migration, from the overcrowded parts of the towns to more favourable conditions, of those who are at present either a grave danger to their environment, or in grave risk from their environment, might be secured. The difficulties attendant upon the displacement of an urban population to rural surroundings are great, but not insuperable. The details of such a scheme would demand careful preliminary study by such a central committee as is referred to in No. 1 above. Special attention would have to be given to the provision of adequate medical and sanitary institutions. If found to be feasible, such a scheme might lead to more prompt amelioration of existing conditions than any other. Attention should be given, in the first place, to the Piræus and Salonica, where existing conditions make effective measures impossible.

"7. It would seem desirable, at the beginning, to limit co-ordinated and systematic action to such definite objects as these to avoid too great a dispersion of effort. The existence of slums, malnutrition and poverty are evidently important factors in determining excessive morbidity and mortality from tuberculosis, but the means at our disposal are strictly limited. It may be remarked that the milk supply, which is of importance in certain countries, plays no important part in Greece in the spread of tuberculosis.

"Such are the lines along which our efforts should, in my opinion, be directed if financial and other resources can be placed at our disposal.

"Tuberculosis is a grave menace to the population of my country, more especially because the funds at present available for the amelioration of the public health are very limited indeed.

"For my administration and for myself it is a great encouragement to know that we can count on the technical advice and the moral support of so distinguished and authoritative a body as the Health Organisation of the League of Nations in our attempts to deal with our tuberculosis problem. Any help and advice that you can give us, both now and in the future, will be most gratefully received, and every effort made to turn them to good account."

The PRESIDENT, in the name of all the members of the Committee, thanked Dr. Copanaris for the admirable reports which he had submitted. He wished to express to him once more their sympathy for the efforts made by the health administration in Greece and to give him their assurance that they would lend him all possible support in order to bring this work to a successful conclusion.

367. **Anti-tuberculosis Campaign to be undertaken in Greece: Report of Professor Léon Bernard.**

Professor Léon BERNARD read his report (Annex 8) and added the following comments.

Discussing the proportion adopted in America and in Denmark of one bed per death (page 4 of the report), he thought that this proportion was somewhat too high, for it left a large number of beds available. In one single Department of France, that of Meurthe-et-Moselle, where the organisation of the anti-tuberculosis campaign was on an adequate basis, no difficulty was found in obtaining beds for the persons attacked by the disease. There were, however, only two beds for three deaths in that Department. In Paris, on the other hand, where the administration had to rest content with the proportion of one bed for three deaths, certain difficulties in finding beds for infected persons had been met with. Experience showed, therefore, that the proportion adopted in the Department of Meurthe-et-Moselle was the most practical.

In connection with the Papworth colony mentioned on page 4 of the report, Professor Léon Bernard recalled that there were three model colonies in England, which could be held to represent the best social solution of the problem of tuberculosis. Instead of sending the sick persons back to their homes, as soon as they had reached a certain stage in their cure, they were placed in villages where they were given work suitable to their state of health. These sick persons, therefore, returned to social life, while remaining under the supervision of the doctor. By this means, the danger that, on returning to their homes, they might become a source of diffusion for the disease was avoided. Such a practice had not yet been adopted in France, but in Greece, in view of the fact that the population was not yet deeply rooted, it would be possible to carry out an experiment, and Professor Léon Bernard maintained that this method of treatment was infinitely less burdensome, from the point of view of public finance, than the establishment of sanatoria.

Speaking of the necessity of making "an effort from the point of view of education to convince parents of the necessity of isolating sick children" (page 4 of the report), Professor Léon Bernard

said that this form of education had made rapid strides in France. In Paris, there was no longer any difficulty in convincing parents of the necessity of isolating their children when sick. In consequence, this form of education could be regarded as offering strong possibilities elsewhere. Children thus isolated from their parents were, according to the district and the local traditions, taken in by peasants, who looked after them very devotedly, and placed them on a normal diet, or else they were sent to special children's colonies.

Referring to page 6 of the report, Professor Léon Bernard drew the Medical Director's special attention to the question of the training of a staff of doctors and special visiting nurses. In France, institutions for the training of visiting nurses had been established only since the war. They had developed very rapidly, but the saturation point had now been reached in so far as recruiting these nurses was concerned. Professor Léon Bernard thought that this difficulty was far greater in Catholic countries than in Protestant. There was no lack in Germany or in England of young girls willing to follow the career of nurse. In Catholic countries, on the other hand, a number of them entered religious orders, where they were very often called upon to perform similar duties. Probably the same difficulty would occur in Greece.

The PRESIDENT thanked Professor Léon Bernard for his very instructive report.

Dr. CARRIÈRE submitted the following draft resolution based on the report of Professor Léon Bernard:

" The Health Committee:

" Having taken note of the proposal formulated by the Finance Committee and approved by the Council with regard to the expediency of collaboration between the Health Organisation of the League of Nations and the Greek authorities and with the Greek Refugee Settlement Commission for the campaign against the ravages caused amongst these refugees by tuberculosis;

" Having also taken note of a memorandum presented by Dr. Copanaris and of a report by Professor Léon Bernard in which an anti-tuberculosis programme is outlined for Greece;

" Realising the necessity of organising in Greece an efficient campaign against tuberculosis, and desirous of supporting it:

" Places at the disposal of the Greek administration the services of the Health Organisation of the League of Nations in order to help to carry out a practical programme and an efficient campaign against tuberculosis;

" Requests the Medical Director to study, in collaboration with the Director of the Public Health Service in Greece, a detailed plan of action conforming to the principles laid down in the report by Professor Léon Bernard, of which the first steps can be rapidly realised; and

" Considers that this action could be usefully assisted by the collaboration of the Greek Refugee Settlement Commission, notably in setting up villages for the reception of tuberculous cases and their families, along the lines of analogous installations already set up in other countries. "

Dr. COPANARIS said that the Greek Government would thankfully agree to this resolution.

Professor OTTOLENGHI was sure that he was interpreting the feelings of his colleague Dr. Lutrario and of his country by expressing his sincere sympathy with the efforts made by Greece to perfect its health organisation at such a painful moment. He supported the resolution submitted by Dr. Carrière, which he thought contained, as a whole, principles of practical utility. He asked Dr. Copanaris to inform him whether the present serious spread of tuberculosis in Greece was to be attributed to the fact that the refugees offered a particularly favourable field to the development of this disease, and had in their turn become channels for the diffusion of the infection through the country. This was a point of which account must be taken in the campaign against this scourge.

Dr. Copanaris having signified assent, Professor Ottolenghi continued by pointing out that though the mixing — with all its consequences — of the local population with the refugees at the moment of their arrival had been to some extent fatal, it was perhaps still possible to lessen the effects by carefully protecting newly-born babies and children in general and also by separating those sections of the population which were most threatened. It would be of as much use to establish villages for them as for those who were actually suffering from the disease, as had just been proposed.

Professor Léon Bernard had also urged the usefulness of forestalling the disease with the aid of B.C.G. vaccine. This measure might indeed be contemplated as being of some use in the future. It should not, however, be forgotten that it was applied at present principally to infants and to individuals possessing a negative reaction. It would be difficult for the Health Committee at the moment to take up a definite attitude on this point and to state, as had been done in the resolution submitted by Dr. Carrière, that this vaccination would have certain advantages, the more so as it had just been agreed to convene a Conference which would meet in a few months to consider precisely this question. In consequence, he proposed that the text of the resolution of Dr. Carrière should be slightly altered. It could, for example, be said: " Inspired by the plan explained by Professor Léon Bernard ", and not " in conformity with the plan ". This amendment would also take account of the fact that it was considered that an enquiry on the spot in Greece would be useful in order to indicate to the Health Organisation the best measures for helping to raise the standard of health in the country.

Professor Léon BERNARD was quite willing to accept the amendment proposed by Professor Ottolenghi to the draft resolution. This amendment was more in accordance with what he himself had in mind.

As far as the isolation of refugees from non-refugees was concerned, Professor Léon Bernard said that this operation could take place in two stages:

1. A definite separation of refugees from the native inhabitants on their arrival.
2. The same step to be taken immediately.

He quite understood the reason why refugees had not been separated from the rest of the Greek population. He knew from experience, and from the attitude that France herself had adopted in the case of her own refugees, to how many insurmountable difficulties that operation would have given rise. Such a separation had therefore been impossible at the beginning. The question was whether it was now possible. Dr. Copanaris, however, had shown the great extent to which the population was now mingled. Professor Léon Bernard doubted whether the Committee should entirely regret the position, for it had been the means of causing Greece to organise anti-tuberculosis centres, which it certainty would not have organised had it not been confronted with this problem. The same indirect advantage had occurred in France. Before the war, there had been no organisation of anti-tuberculosis centres. In 1915 and 1916, however, when faced with the influx of tubercular persons who had invaded the country, it had been realised that immediate measures must be taken, with the final result that the whole population had benefited. He felt sure that the same happy result would be achieved in Greece.

The PRESIDENT said that the draft resolution, submitted by Dr. Carrière, *was adopted as amended*.

Dr. COPANARIS thanked the members of the Health Organisation for the interest shown in his country, and especially Professor Léon Bernard for his report, which showed such sympathy for Greece.

36s. Proposal of the International Anti-tuberculosis Union regarding the Establishment of a Single Anti-tuberculosis Stamp.

Professor Léon BERNARD, referring to document C.H. 703, explained the desires of the International Anti-tuberculosis Union in regard to the establishment of a single anti-tuberculosis stamp. The idea of this stamp, due to a Danish postman, had made great progress in various countries. In the United States more particularly, the stamp campaign had been so fruitful that it had furnished sufficient funds to maintain most of the anti-tuberculosis centres. This campaign had also been fruitful in many countries of Europe. Experience had shown that the sale of the stamp only led to good results provided:

1. It had no postal value.
2. Its use were reserved for a single branch of hygiene only.
3. It were not placed on sale throughout the whole year, since, if this were the case, it became a mere matter of routine.

In the United States, for example, this stamp was sold for a month only, at Christmas-time. Experience in France showed how fruitful had been the sale of the stamp. In 1926, the sale had been limited to one single department, that of the Meurthe-et-Moselle; in 1927, it had been extended to four or five Departments. In 1928, it had been extended to cover the whole of France, and had brought in 15 million francs, which had been an unhoped-for result.

It had been thought that an international character might be given to the sale of the stamp in order that all countries might share in the profits thus obtained. An agreement would therefore have to be reached on the character of the stamp; in Switzerland, for example, it possessed certain characteristics, and had a certain postal value.

The International Union thought that the profits would be more considerable if use were made of a stamp of no postal value in any country. The Health Committee might obtain the agreement of Governments to the institution of such a stamp of international character. Naturally, this stamp would not be the same for all countries, but the idea of the International Union was to reserve the profits of the same solely for combating tuberculosis.

Dr. WINSLOW, speaking in the name of Surgeon-General Cumming and in his own name, expressed his sympathy with the report of Professor Léon Bernard, which had as its object the restriction to a single aim of the sale of the stamp. He did not, however, think that his proposal could be accepted, in that it provided for the restriction of the profit realised by the sale of the stamp to the fight against tuberculosis alone. The situation would be difficult in America, where the National Tuberculosis Association extended its activity to, for instance, heart disease, and might extend it to other maladies.

Professor Léon BERNARD pointed out that in the United States a single association benefited by the sale of the stamp, but that it was quite natural that it should allocate a part of its revenue to other associations.

The PRESIDENT hesitated to accept Professor Léon Bernard's proposal, since there might be in certain countries questions of social hygiene that were considered more urgent than the fight against tuberculosis. In Denmark, for instance, the sale of the stamp had been of great value in this campaign but, at the present time, the sale yielded a certain surplus, and it was now seen that it might be possible to concentrate the work in other directions and not to limit it exclusively to tuberculosis. He thought that to adopt Professor Léon Bernard's proposal would be to infringe upon the rights of States, some of which might have reasons for considering certain maladies more dangerous than tuberculosis.

Professor Léon BERNARD recalled that the idea of the International Union was to combat by means of the sale of the stamp, a single scourge in each country, while the aim of the work might vary according to the country.

Dr. CHODZKO said that in Poland an anti-tuberculosis stamp had been sold each year since 1925. The results obtained in his country gave reason to believe that Professor Léon Bernard's resolution might be modified and that the Committee might restrict its request that each country should dedicate the whole of the profits of the sale to the combat against tuberculosis to a certain period of the year only, for instance, December.

Dr. RAJCHMAN pointed out that this subject raised a question of procedure. The Health Organisation had never yet adopted such a resolution, and he thought that it would be dangerous to continue in this path and to adopt a resolution inviting countries to undertake certain forms of social work. In some countries, the organisations were at strife among themselves. The resolution of the Health Committee would thus be useless. If, on the other hand, the Committee were to adopt such a resolution and it were not followed by a sufficient number of countries, its prestige would suffer. The International Union against Tuberculosis might communicate the Minutes of the present meeting to the different countries, without there being any necessity for the Health Organisation to come to a decision upon this subject.

Dr. HAMEL said that, in Germany, a good works stamp was sold every two years and that the profits of the sale were shared among various works. In Germany, where social insurance companies had already been formed which assisted, in particular, in the fight against tuberculosis, it would be difficult to restrict the profits of the sale to a single work.

Professor Léon BERNARD did not think that the difficulty of procedure raised by the Medical Director was conclusive. Indeed, if the Health Committee had been in agreement upon the principle, it would have requested the Council or the Assembly to recommend Governments to take certain measures, without the Health Committee having concerned itself with the matter. He realised, however, after the objections that had been made, that the recommendation could not readily be applied in a great number of countries, and he would not press his proposal. At the same time, he regretted this, for the restriction of the profits of the sale of the stamp to the benefit of a single social work would have been very advantageous. He hoped that an international principle would be found which would remove all these difficulties.

369. Nomination of Technical Advisers to the Turkish Government.

Dr. RAJCHMAN pointed out that the Turkish Government had addressed a letter to the Secretary-General, dated May 1st, 1928 (Annex 9), requesting that the designation of the technical advisers who were to be attached to it should be hastened. He recalled that in the declaration of July 24th, 1923, annexed to the Treaty of Lausanne, provision was made for the establishment of a list of six names to be submitted to the Turkish Government, which would choose from these nominees three technical advisers. He proposed that the list should be established by a Mixed Committee of ten members, of whom five should be designated by the Office international d'hygiène publique and five by the Health Committee.

The PRESIDENT proposed that the Health Committee should designate as members of this Mixed Committee the PRESIDENT of the Committee, M. VELGHE, Dr. CANTERI, Dr. CHODZKO and Professor NAGAYO.

These proposals were adopted.

370. Yellow Fever in the Congo Estuary: Letter from the Belgian Government.

Dr. RAJCHMAN recalled that there had been communicated to the members of the Committee a copy of a letter from the Belgian Government received on April 25th, 1928, and relating to yellow fever in the Congo estuary (Annex 10). He read the text of the following resolution, which had been drafted after an exchange of views between the four members of the Committee representing the four countries specially interested in this question:

" The Health Committee:

" Takes note of the communication made by the Belgian Government to the League of Nations in the letter of His Excellency M. Hymans, Minister for Foreign Affairs, to the Secretary-General of April 25th, 1928, on the subject of yellow fever in the estuary of the Congo.

" Understands that this communication has been forwarded to the other Governments to which it refers; and

" Will be at the disposal of those Governments, at any time, for the consideration of any action in the matter which they may agree to recommend to the Health Organisation of the League of Nations. "

Professor OTTOLENGHI pointed out that the four countries mentioned in the letter of the Belgian Government were not the only countries interested in the question dealt with in the letter. Italy also had a colony in the tropical regions on the East Coast of Africa, and should, in consequence, be consulted in the matter.

Dr. RAJCHMAN pointed out to Professor Ottolenghi that Italy had no territories in the Congo estuary. The aim in view was the negotiation of an arrangement between the four Governments mentioned in M. Hymans' letter. It was evident that any Government interested in the question could offer its collaboration.

Professor OTTOLENGHI observed that the letter from the Belgian Government did not refer only to the Congo estuary but also to the tropical regions of Africa on the Indian Ocean. It was for this reason that he had intervened in the discussion.

Sir George BUCHANAN thought that the text of the resolution clearly expressed the position that might be taken by the Health Committee.

Dr. RAJCHMAN pointed out to Professor Ottolenghi that the text of the letter of the Belgian Government had been communicated to all the Members of the Council also, and that the report of the Committee would be submitted to the Council.

Professor Ricardo JORGE also pointed out to Professor Ottolenghi that the official letter for the consideration of the Committee referred only to the arrangement between the four Powers interested in and expressly designated for the Congo basin. He was sure that a great number of countries were interested in the combat against yellow fever, but for the present the Committee should consider only the text of this letter.

The text of the above resolution was adopted.

371. Dangers resulting from the Use of X-Rays: Proposal by Dr. Jitta.

Dr. RAJCHMAN read the following draft resolution:

" The Health Committee:

" Having taken note of a memorandum (drawn up by Dr. Jitta in collaboration with Dr. Van der Plaats, radiologist at Utrecht) concerning the dangers which may result from the use of X-rays by incompetent persons or their conservation in defective installations,

" Requests the Medical Director to ascertain the existing laws or regulations on this subject in different countries and other information necessary to ascertain what kind of action has been or should be taken in order to obviate the dangers referred to. "

This resolution amounted to a request for study before the next session.

Dr. JITTA remarked that the proposal was rather different from the one that had been distributed, which provided for an examination of the question by a Committee of Experts. He hoped that, if the research by the Secretariat attained its aim, and if it seemed necessary to have an examination of the question by a committee of experts, this could be done without any express resolution on the subject. Moreover, as the collection of information would take some time, he thought that there would be an opportunity later of returning to this question.

Professor Léon BERNARD thought that Dr. Jitta would receive satisfaction without it being necessary to assemble a special committee of experts. It had been decided to entrust to a sub-committee of experts the study on the treatment of cancer by X-rays. It would be easy to draw the attention of these experts to the harmful influence that these rays might have upon those who handled them.

Sir George BUCHANAN thought that it would be interesting to obtain, in reply to Dr. Jitta's request, any documentation which could be collected from Governments which had drawn up regulations, and also any information which could be supplied by members of the Cancer Sub-Commission on radiotherapy. He thought, however, that action might be limited, for the moment, to this collection of facts and that the Committee's consideration of the use that would be made of them could come later. In the United Kingdom, the precautions required in the preparation of X-ray apparatus were elaborate, and when tenders for radiotherapy apparatus were invited, it was stated that firms in foreign countries which did not apply such strict regulations were able on that account to offer lower prices.

Dr. JITTA said that he would be satisfied if the experts entrusted with the study of the treatment of cancer by X-rays would ask in the different countries for supplementary information.

The draft resolution was adopted.

372. **The Question of Rheumatism.**

Sir George BUCHANAN said that the question of chronic rheumatism was of particular importance to the inhabitants of countries with cold climates, and that in many aspects it called for international comparison. The voluntary international association for the combat against this malady had obtained excellent results and, in his view, its work was worthy of support from the Health Committee. The form of any assistance which could be given, however, needed consideration, and he asked that the question should be kept over for the next session. Meanwhile, the members of the Committee might consider the position further, and give attention to communications which they might receive upon the question from physicians and hydrologists in their respective countries.

Dr. RAJCHMAN agreed that the question should be adjourned until the October session. This subject raised a question of principle. The International Committee should not be left with the illusion that the Health Organisation would enter into collaboration with an organism which was not Governmental in character. It would be difficult to say now what the attitude of the Committee would be in this respect, but he would be very surprised if it were to declare itself in favour of collaboration with an unofficial organ of this kind.

Dr. JITTA regretted that the Health Organisation would not be able to enter into collaboration with the International Committee, whose work had hitherto been so excellent, and he wished to come to its help if it were possible. There could be no question of a subsidy, but if an enquiry on rheumatism were opened without the help of experts, an enquiry concerned solely with scientific work, it would be possible to collaborate with this society, whose help would be very useful in view of the considerable documentation at its disposal.

Sir George BUCHANAN said that the work of the association deserved to be taken into consideration, and he did not think less of international medical co-operation because it was independent of Government official services. These voluntary national associations, with an international committee, and at their own expense, maintained periodical conferences and a very useful journal. There should be ways in which this Committee could recognise and help their work.

If it were suggested that the matter should be held over without any intention of collaboration with this organism, he thought that it would be better for the time being to drop the question altogether.

The Committee accepted this view.

373. **Request of the Asthma Research Council.**

Dr. RAJCHMAN proposed the same solution as in the case of rheumatism.

This proposal was adopted.

374. **Proposal for the Issue of an International Booklet on Personal Health.**

Dr. RAJCHMAN proposed that this question should be adjourned till October.

This proposal was adopted.

375. **Invitations addressed to the Committee.**

The Committee decided that it would be represented by the Medical Director at the Thirty-ninth Congress of the Royal Sanitary Institute, at Plymouth, in July 1928, and by Professor Léon Bernard at the Conference of Social Defence against Syphilis, at Nancy, in May 1928.

376. **Constitution of the "Darling" Foundation.**

The Committee decided to adopt the statutes of this Foundation, which had been referred to it for study (Annex 11.)

377. **International Health Exhibition at Dresden in 1930.**

Dr. RAJCHMAN informed the Committee that the Deutsches Hygiene Museum wished the Health Committee to take part in the International Exhibition at Dresden in 1930 (similar to that of 1911), which it was organising.

The PRESIDENT supported this proposal, but thought that nothing could be said as yet as to the possibility of a meeting of the Committee at Dresden.

378. **Request for the Collaboration of Women in the Work of the Health Organisation: Wish expressed by the Council for the Representation of Women in the League of Nations.**

The PRESIDENT said that he regretted in this connection the absence of Dr. Alice Hamilton.

Dr. RAJCHMAN suggested that, in view of the interest of this question for public opinion, the Committee should, without adopting a resolution upon the subject, point out that the mandate of its members did not expire for eighteen months, but that, at the time of renewal, account would be taken of the request made by the association in question. At the same time, an impressive list might be given of the number of women who participated in the work of the Health Organisation.

379. **Title of the Final Report on Sleeping-Sickness.**

Dr. RAJCHMAN pointed out that the title of the final report of the Sleeping-Sickness Commission had been drafted as if the term "human trypanosomiasis" were synonymous with the term "sleeping-sickness". Professor Chagas had justly drawn attention to the existence of two forms of human trypanosomiasis which made it difficult to monopolise this term for sleeping-sickness alone. This would be taken into account in the future.

EIGHTH MEETING

Held on Saturday, May 5th, 1928, at 10 a.m.

President: Dr. Th. MADSEN.

The PRESIDENT welcomed Dr. Stock, who wished to attend this last meeting of the Committee.

380. **Invitation of the Swiss Hygiene Society.**

Dr. CARRIÈRE informed the Committee that the Swiss Hygiene Society would hold its assembly at Geneva on that day and on the Sunday following. The subjects to be discussed would be of interest to certain members of the Committee and related to problems of food supply and of school hygiene. The Swiss Hygiene Society would be much honoured if some of the members of the Committee would find it possible to be present at least during part of this meeting. Upon his request, the Medical Director had kindly requested one of his collaborators to be present at the meeting and to make a statement upon the work of the Health Organisation.

The PRESIDENT warmly thanked Dr. Carrière and the Swiss Hygiene Society for this kind invitation.

381. **Examination of the Draft Report to the Council on the Work of the Twelfth Session.**

The Committee examined the draft resolutions submitted to it.

With regard to Resolution IX relating to the Eastern Bureau, Dr. LUTRARIO recalled that, at previous sessions, it had been customary to group the resolutions under headings, which was of advantage from the point of view of clearness.

Dr. RAJCHMAN replied that the Committee was examining, at the present moment, only a first draft of the resolutions. They would be grouped under headings as usual.

With regard to Resolution X (Permanent Standards Commission), Professor OTTOLENGHI wondered whether the mention made of "official action" corresponded to the deliberations of the Committee upon the necessity of ensuring the diffusion in the medical world of the work done by the Health Organisation.

Dr. RAJCHMAN explained that Resolution X was a recommendation to the Council with a view to official action in connection with Governments. As regards the diffusion in the medical Press and in medical circles, there was no need of resolutions, since the deliberations of the Committee appeared in the Minutes.

With regard to Resolution XIV (Tuberculosis among Greek refugees) Professor OTTOLENGHI recalled the difficulties that had been encountered in the few countries where the institution of villages for the tuberculous had been attempted. Perhaps there was no need to recommend the adoption of this procedure in this apparently imperative manner. Might not this hinder the action of those who were charged with the organisation of the fight against tuberculosis in Greek refugee centres ?

Dr. RAJCHMAN pointed out that, unless a contrary decision were taken by the Committee, it would be difficult to reopen a discussion upon the principle involved in this point.

Professor Léon BERNARD thought that the form of the resolution did not constitute an imperative injunction. The persons charged with the study of the problem would, after enquiry, be entirely free to consider what it was best to do. It was only recommended that an attempt should be made in this direction, an attempt to which the circumstances seemed to lend themselves.

The Committee decided to make a slight formal amendment in the resolution.

Following a remark by Professor Léon Bernard upon Resolution XVI (X-rays), M. VELGHE explained that it was a question of the danger of the use of X-rays not only for those who manipulated them but also for the patients and for the houses near the radiographic installations.

Professor Léon BERNARD replied that many therapeutic processes could be dangerous if the necessary precautions were not taken, and that there would be no reason for not mentioning, at the same time as X-rays, products such as digitalis, salvarsan, etc.

Sir George BUCHANAN feared that too general a form would unduly enlarge the field of study that was to be entered upon.

Dr. JITTA explained that X-rays were not handled only by doctors and by operators having all the necessary competence. They were used also, for instance, in ensuring the authenticity of old pictures, for shoemakers' testing apparatus and by dentists, etc. Danger might arise from these various uses. On the other hand, there was the question of defective radiographic installations which should be taken into consideration.

Professor Léon BERNARD did not think that there would be any disadvantage in adopting a vague formula. The question would be raised again in the Committee and it was at that time that it would be indispensable to limit the field of study.

The resolution was adopted with formal amendments.

With regard to Resolution XVIII (Nomination of technical advisers to the Turkish Government), Sir George BUCHANAN, referring to the discussions at the previous meeting, said that he did not think it indispensable to specify that the designation of the persons in question should be made at the present session.

The Committee decided to amend the text as follows: " To proceed to this designation *if it should judge it necessary.*"

The resolutions were adopted with formal amendments.

382. **Representation of the Health Committee on the Child Welfare Committee.**

The President read the following letter which he had received from Professor Léon Bernard:

> " I have the honour to ask you to request the Committee to relieve me of the flattering mission of representing it upon the Child Welfare Committee. The multiplicity of my obligations no longer allows me adequately to fulfil this task, which, moreover, has seemed to me, after experience, to require administrative and judicial rather than medical competence, on account of the questions that most frequently demand the attention of the Committee. "

The President said that the Health Committee would much regret this decision, and in the name of his colleagues he thanked Professor Léon Bernard for the work that he had already done in his capacity as representative of the Health Committee upon the Child Welfare Committee.

Professor Léon BERNARD replied that, in practice, the representative of the Health Committee upon the Child Welfare Committee had played only a small part in that Committee from the medical point of view. Indeed, the Child Welfare Committee tended more and more to leave medical questions to the Health Committee and to concentrate its activity upon judicial, pedagogic and administrative questions. It seemed to him that another of his colleagues, and particularly M. Velghe, would be more qualified to represent the Health Committee.

The Committee decided to invite M. VELGHE to succeed Professor Léon Bernard as its representative upon the Child Welfare Committee.

383. **Date of the Next Session.**

The PRESIDENT proposed that, in view of the fact that the programme for the next session was, so far only a short one, and that this session would only last for three or four days and would follow immediately the meeting arranged at the Pasteur Institute for the consideration of the question of anti-tuberculosis vaccination, the autumn session should take place at Paris after the meeting of the Office international d'hygiène publique, approximately on October 24th, 1928.

Agreed.

384. **Propaganda Films for Anti-tuberculosis and Social Hygiene: Request of Professor Léon Bernard.**

Professor Léon BERNARD said he very much hoped that, if it were possible, the Committee would take advantage of its session at Paris in the autumn to be present at the display of a series of propaganda films for anti-tuberculosis and social hygiene.

The Committee took note of this request.

385. **Close of the Session.**

Dr. CARRIÈRE said that he was very pleased that his position as Vice-President gave him the privilege of expressing to the President the feelings of great affection that the whole Committee had for him. This was a tradition, but not a purely formal one, for the members appreciated most sincerely the courtesy, the devotion and the skill with which the President had directed the debates of the Committee, and they expressed once more the hope that they would have in Dr. Th. Madsen a permanent President.

The Committee associated itself with Dr. Carrière's words.

The PRESIDENT said that he was deeply touched by Dr. Carrière's speech and by the reception of the Committee. If the meetings of the Committee had taken place under good conditions, it was thanks to the spirit of good understanding, the zeal and the talent that all had displayed in order to obtain the best results for the Health Organisation and for the whole of humanity. The session that was drawing to its close had been particularly profitable. As always, a large proportion of the thanks was due to the Medical Director and to the Secretariat, whose work before and during the session was worthy of all praise.

In conclusion, the President renewed the compliments of the Committee to his two colleagues who were on the eve of attaining their seventieth birthday.

Dr. JITTA, speaking also in the name of Professor Nocht, thanked the President for his kind words.

Sir George BUCHANAN wished to say how much all the English-speaking members of the Committee had appreciated the arrangements made for the first time at that session for the translation into English of the speeches made in French.

Surgeon-General CUMMING supported Sir George Buchanan's statement.

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ANNEX 1.

AGENDA OF THE TWELFTH SESSION.

Approved by the Committee on April 30th, 1928.

I. Decisions of the Council of the League:
   (*a*) Report by M. Adatci approved by the Council on December 7th, 1927.
   (*b*) Communication of the Minutes of the Meeting of the Council held on December 7th, 1927.
   (*c*) Development of the Work of the Technical Organisations in Latin America.
   (*d*) Increase of the Grant given by the Rockefeller Foundation for Interchanges during the Year 1928.

II. Report by the President on his Mission to India.

III. Report by the President on the Session of the Permanent Standards Commission held at Frankfort-on-Main from April 25th to 28th, 1928.

IV. Report and Resolutions of the Third Session of the Advisory Council of the Eastern Bureau held at Delhi from December 26th to 29th, 1927.

V. Collaboration with Latin America:
   (*a*) International Centre for the Study of Leprosy in Brazil.
   (*b*) International Public Health School at Rio de Janeiro.
   (*c*) International Centre for Child Welfare at Buenos Aires.

VI. Report of the Cancer Commission.

VII. Report of the Smallpox and Vaccination Commission.

VIII. Report by the Chairman of the Opium Commission on the Report of the Office international d'hygiène publique on the subject of Preparations coming under the Provisions of Article 8 of the Opium Convention of 1925.

IX. Budgetary Estimates for the Financial Year 1929: Report of the Budget Sub-Commission.

X. Report by the Medical Director on the Work of the Health Organisation since the October (1927) Session of the Committee.

XI. Miscellaneous Questions:
   (*a*) Proposal of the Union internationale contre la tuberculose.
   (*b*) Invitations to Congresses and Conferences.
   (*c*) Other Questions.

XII. New Proposals:
   (*a*) Letter from the Belgian Government concerning Yellow Fever in the Congo Estuary.
   (*b*) Proposal of Sir George Buchanan concerning Rheumatism.
   (*c*) Proposals of Dr. Jitta concerning X-rays.

ANNEX 1a.

QUESTION OF RHEUMATISM.

LETTER FROM THE INTERNATIONAL SOCIETY OF HYDROLOGY TO SIR GEORGE BUCHANAN.

Amsterdam, March 29th, 1928.

We desire to call, your attention to the work of the International Committee on Rheumatism, founded by this Society nearly three years ago.

At a meeting of this Committee held at Lyons in October last it was unanimously resolved:

"1. That the various national committees[1] which have now been constituted, and which have formulated their constitution and programme in accordance with the policy and purposes of the Central Committee, should be as soon as possible co-ordinated and advised by a central body having more authority than the present Committee. The Committee

[1] Committees have now been formed in Germany, France, The Netherlands, Belgium, Czechoslovakia, Sweden, Hungary, Austria, as well as in England.

considers it very desirable that health centres (both spas and clinics) where the investigation of rheumatic diseases is carried on and treatment given, especially for insured patients, should be periodically visited, and guidance given with reference to the most fruitful lines of research and the most approved methods of treatment.

" 2. That assistance shall be sought from the Health Committee of the League of Nations in order to give more authority, permanence and effectiveness to the movement initiated by the Society for the combating of rheumatic diseases; and that the Chairman be asked to bring the matter before the British Ministry of Health, as it is considered by the representatives of other countries that proposals for this purpose could best be made by the British Government. "

The great development of the activities of the International Committee on Rheumatism, in a social as well as a scientific sense, has now demonstrated the necessity of an International Advisory Office on chronic rheumatic disease. We recognise, however, that it will probably be more practicable to begin this organisation with a small Committee of Experts to be appointed by the Health Committee of the League of Nations. We propose that this Committee should be asked to report upon the following questions:

1. The incidence in different countries of acute rheumatism and chronic rheumatic diseases.
2. The investigation of early cases of rheumatism with special reference to abnormalities of the skin.
3. The influence of climate and occupation in causation.
4. The organisation of the most effectual methods of treatment, particularly in early cases.

May we request you to be so good as to bring this matter before the next meeting of the Health Committee of the League of Nations?

(Signed) R. Fortescue Fox,
Chairman.

(Signed) J. van Breemen,
Hon. Secretary.

C.H. 712.

ANNEX 2.

REPORT ON THE WORK OF THE CANCER COMMISSION PRESENTED TO THE HEALTH COMMITTEE ON MAY 1ST, 1928.

Geneva, April 29th, 1928.

The Health Committee, at its last session, on consideration of the reports then submitted to it by the Cancer Commission, decided that further enquiries should be made with a view to the selection of the subjects on which international enquiries in regard to cancer seem likely to yield results of importance. Since then, numerous enquiries have been made, and suggestions received. The Cancer Commission, after discussing these suggestions at its meetings on April 27th and 28th, at which they were assisted by Dr. Carozzi and Dr. Janet Lane-Claypon, concluded that the following subjects deserve special attention at the present time, and recommends that the action indicated in each case should now be taken.

I. Investigation into Occupational Cancer.

At our last meeting in October 1927, the members had before them a suggestion from the Sub-Committee of Statisticians that an international enquiry into the incidence and causes of occupational cancer should be undertaken. The Commission, with the aid of the Secretariat, has explored the possibilities of the situation and, with the kind aid of Professor Carozzi, of the International Labour Office, has reached certain conclusions which it desires to recommend to the Health Committee for its acceptance for the reasons set out below. It has in this connection given special attention to communications from Professor Roussy, Colonel Smallman (British Cancer Committee) and the publications in " Hygiène du Travail ".

Experience has already shown that available statements as to the incidence of occupational cancer cannot be accepted at their face value. The presence of cases of cancer due to the occupation undertaken can be masked in several ways. A long interval frequently exists between the occurrence of the predisposing causes and the development of the cancer, so that the doctor who is eventually consulted may be unaware of the relationship of the cancer with the previous occupation of the individual. Or a man may change the nature of his occupation and the fact that the disease was due to the first form of work may be concealed by this change of employment.

Apart from tar-cancer, which has received so much experimental study, occupational cancer has been definitely traced in relation to one branch of aniline-dye workers, to certain methods of cotton-spinning (mule-spinner's cancer), to the process of briquette-making, to workers in cobalt-mines, to those exposed to special rigours of climate and, formerly, to the occupation of chimney-sweepers.

But present knowledge shows that there is a very irregular distribution of cancer in different countries, even among workers in the same industries. The causes of this unequal distribution can only be guessed at. It is probable that they are less simple than might appear and that valuable lessons on the causation of cancer could be learnt from their intensive study. This means much more than a question of collecting notifications and deaths from cancer known to be due to the occupation of the individual. Moreover, the subject has a great economical importance on account of the loss, both in labour and in insurance liabilities, which is entailed.

Another subject on which enquiry is needed is the application of methods of control. Already preventive methods have been effectively applied in the case of aniline-dye workers in Germany, where cancer of the bladder was found to occur among the workers. This disease may now be said to have been almost eliminated from among the aniline-dye workers of that country.

The Commission believes that the most effective way of investigating this important problem will be to proceed with the advice of a few persons who would form a small Sub-Committee. It is evident that the expert advice needed will be along the lines of general knowledge of industrial conditions and of industrial diseases, the method of collecting and of handling statistically the evidence collected, of the pathological aspects of the disease and also of detailed knowledge of the special cancerous process arising in relation to the occupation considered. These requirements would appear to be fully met by inviting the aid of a Sub-Committee consisting of:

Professor Carozzi, Chief of the Health Section at the International Labour Office.
Professor Greenwood, Professor of Statistics, School of Hygiene, London.
Professor Roussy, Professor of Pathology at the University of Paris.
Dr. Teleky, District Medical Inspector of Factories, Düsseldorf.

The Secretarial work of this Sub-Committee would be carried out jointly by the Secretariat of the League of Nations and the International Labour Office.

As a general plan of work, the Commission suggests that the several occupations which are known to produce cancer in all those countries where the industry is carried on should be considered separately, whether cases of cancer arising out of that occupation have or have not been reported from all the countries concerned. An intensive study of the position in each country as to the occurrence of cancer either during or after the working life of the workers in the industry would show the causes to which the presence or absence of cancer is attributable — whether, on the one hand, it is due to differences in the factory methods or, on the other hand, to differences in ascertaining the medical facts.

The information could be obtained both directly by application to the factory medical inspectors of the several countries and also through a small national committee in each country, which would collect the necessary data for examination by the Sub-Committee. It is suggested that, if necessary, one or more co-opted members might be temporarily added to the Sub-Committee to aid in the investigation of each industry, as and when it is undertaken by the Sub-Committee. Professor Carozzi has already been good enough to ascertain informally the attitude of many of the industrial medical inspectors toward the proposition, and found it uniformly favourable, though it is perhaps right to note that the question of the expense incurred in obtaining information for the Commission may in some instances have to be specially considered.

II. Possibilities of International Work in Radiological Methods, etc.

The experience which has now been gained in the radiological treatment of cancer is sufficient to show that it is a therapeutic agent of high value. A great amount of work has been undertaken upon many thousands of patients suffering from cancer of different sites, and a vast literature upon the subject has already accumulated. In spite of this, there is a marked lack of agreement both as to the precise action of the rays and as to the best method of applying them. It is evident that the means employed for their administration will necessarily differ according to the locality of the cancer, and also that very different methods must be employed for the use of radium and of Röntgen-therapy respectively. But want of agreement extends even to treatment by radium alone, when applied to cancer of the same degree affecting the same site.

The site for which the most extensive use has been made of ray-therapy is that of the uterine cervix. Other sites for which the data are less numerous or even scanty are the skin, tongue, breast and rectum. The data available upon the sites other than the cervix of the uterus hardly appear sufficiently numerous to warrant any detailed international investigations.

In the treatment of cancer of the cervix, intensive practical experience has been gained in a fairly large number of important clinics in various countries, and a statistical examination of the results obtained five years after treatment has shown that those obtained by the employment of the best surgery and by the use of radio-therapy are roughly equal in value. Further, radio-therapy is the only known means of dealing successfully with those patients who, at the time of making application for treatment, are already in an inoperable stage of the disease.

In the case of these inoperable patients, the result of radio-therapy, in certain clinics, is that at least 10 per cent are alive and well five years after treatment. In some clinics the percentage is still greater and improving year by year.

There appears to be considerable divergence, both of practice and of opinion, amongst many of the heads of the above-mentioned clinics in regard to the use of radium. It is impossible at the present time to explain these divergences by appeal to differences in the physical action of the rays. The most expert physicists are not agreed upon many of the fundamental points, although they are actively engaged in research directed to elucidate the real basis of many aspects of radio-therapy.

Nevertheless, the practical application of radium is being pursued, seemingly with increasing success in many large clinics, though on somewhat different lines. The success of the treatment has induced smaller clinics and also many doctors in general practice to undertake radium treatment with such small amounts of the radio-active substance as they can afford to purchase — amounts often entirely inadequate for the effective treatment of cancer. Many practitioners in every country are apt to regard radium in the light of a drug which can be applied repeatedly for the relief of obvious symptoms, such as the discharge and hæmorrhage from the growth, as and when these are troublesome. They are surprised and disappointed when they find that no cure has been effected by treatment applied on this basis.

At present it would seem that much radiological practice is necessarily empirical. The results obtained by the methods now in use in many places are as a whole sufficiently good to warrant hopes of even better things; but, in face of the considerable divergences of method, it is impossible to indicate the direction in which further progress can be achieved. It is not possible to say precisely how wide the divergences really are, or how small they may be, because the published data are not sufficiently detailed to enable this to be done.

So far as can be ascertained generally, it seems that the practice in many smaller hospitals is often very unsatisfactory owing to ignorance of the advances in tratment which have been made in the larger clinics. These remarks are believed to be true for all countries.

In these circumstances, looking to the small number of the larger clinics in question and to the different countries in which they are placed, it seems that the study of practical methods of radio-therapy, from an international aspect, may be of value, and the Cancer Commission has, after due consideration, decided to endeavour to promote a better understanding of the subject.

The Commission believes that the best means of dealing with the problem would be to obtain precise details of the method or methods which are employed in those clinics where the published results of ray treatment of cancer of the uterus over a series of years have been good.

While it cannot be anticipated that the use of radium will ever be effectively taught by any mere document, without practical instruction in the art, an authoritative statement upon, at least, the basic principles of the method or methods which ought to be followed would itself be of the utmost value. At present, there is great uncertainty in many clinics as to the methods used in other clinics where successful results have been obtained. Moreover, if danger results from the way in which radium is frequently used by the general practitioner or by the staff of the smaller hospitals, the nature of the danger should be pointed out, on good authority.

The question thus arises as to the best method of securing such a survey of expert opinion and conclusions of as authoritative a nature as it may be possible to obtain at the present time.

It seems to the Commission that the best way of achieving the desired result would be by the formation of a small Sub-Committee of suitable persons who would lay down the details for the proposed enquiry. The Commission proposes that the number of members should not exceed seven, and that they should be directors of important clinics with the largest published experience, or should be nominated by these directors to represent the knowledge of the clinic.

The primary function of the Sub-Committee would be to determine the precise form of the enquiry and to prepare any documents relating to it. It should be clearly understood that the study will not depend only on the clinics to which the members of the Sub-Committee belong. The Sub-Committee would be asked to invite the co-operation of all suitable clinics so that the data ultimately obtained are really comprehensive. The Commission notes with much satisfaction that already several important institutes and clinics have signified their willingness to co-operate as soon as a programme has been fixed.

The Commission suggests, therefore, that for this purpose the following heads of clinics should be asked to become either themselves members of the Sub-Committee or to nominate a responsible deputy:

Professor Régaud, Fondation Curie, Paris.
Professor Forssell, Radiumhemmet, Stockholm.
Professor Pestalozza, Policlinico di Roma, Rome.
Professor van Rooy, Professor of Gynæcology, Amsterdam University.
Professor Döderlein, Universitäts-Frauenklinik, Munich.
Professor Lahm, Direktor der Gynäkolog. Abteilung, Stadtspital, Chemnitz.
Mr. Comyns Berkeley, Director of the Middlesex Hospital, Cancer Charity, Gynæcological Section.
Dr. Janet Lane-Claypon, Investigation Officer.

Owing to the great distance away, it seems hardly possible to invite American co-operation on the Sub-Committee, but the Commission sincerely trusts that both the United States and Canada will be willing to participate in the general enquiry.

In addition to details of methods and their relation to results, it might be well for the Sub-Committee to take cognisance of the following points:

1. Available supplies of radium.
2. The centralisation of radium in each country for the supply of the smaller clinics and individual practitioners, if this is considered desirable.
3. The form of record which should be kept with the view of comparing the results obtained in different countries some five years later.

At the present time, it seems fairly certain that there is considerable misunderstanding in all countries both as to the high curative value of the treatment and as to its dangers if undertaken by those without sufficient expert knowledge.

An investigation on the above lines cannot fail to add to the sum of knowledge as to the treatment of cancer of the uterus by radiological methods and to remove much of the dread with which this disease is now commonly and justifiably regarded. Further, it should serve as a most valuable guide to those clinics or individual practitioners not so well equipped in technical knowledge as to the advice and treatment which they should secure for patients found or suspected to be suffering from cancer of the uterus.

III. Incidence of Cancer in relation to " Constitution ".

The Commission has received on this subject through Dr. Lutrario a valuable contribution from the Italian group of workers, which should be circulated to members of the Committee and others interested. The Commission is of opinion that it should be an instruction to each of the Sub-Committees above proposed to consider the possibility of obtaining information on this subject in the course of their respective enquiries and to consider any suggestions on this matter which may be made by the Italian group of workers.

Meanwhile, the Commission draws attention to the document which has been prepared by the Italian group describing the reasons which justify the enquiry in Italy upon the question of " constitution " in relation to the incidence of cancer, together with a short summary of other published material on the same subject.

It is desirable that the question of extending similar enquiries on this subject to other countries should be deferred until the results are obtained from Italy. The Commission therefore welcomes the suggestion that the Italian group should undertake investigations on the subject and then make a further communication in due course.

The Commission would also refer to a communication made to it by Professor Nagayo, in which he expresses his sense of the importance of the suggestion of the Italian group and the possibility of an investigation on somewhat similar lines being undertaken in Japan.

It also draws attention to a preliminary study concerning heredity in relation to cancer which has been commenced in the Netherlands by Dr. Jitta and Professor Deelman whose report has been sent to the members of the commission.

IV. Other Proposals.

Suggestions of certain new lines along which the work of the Cancer Commission should continue have been received. It is hoped that these suggestions will be amplified, and in this connection further communications will be sent to distinguished cancerologists and other competent authorities. The Commission proposes to discuss these suggestions and the action to be recommended, at a subsequent session.

V. Italian Statistical Data.

The Italian group of investigators, which participated in the statistical investigations already summarised in the report submitted by the President to the Health Committee in October last, has now prepared a report which sets out the completed series of Italian data, embodying control

observations. Dr. Lutrario, on behalf of the group, has presented this report to the Commission at the present session.

The general effect of the Italian enquiries was already known to the Commission and to its Statistical Sub-Committee when the summarising report was prepared. The Commission desires to express its great obligation to the Italian investigators for having continued their labours to the point of presenting so complete and useful an analysis of the results of the laborious work which they undertook on behalf of the Commission.

VI. Communications received.

The Commission has also received at this session the documents specified in the list annexed, and in due course will make recommendations in regard to their distribution or publication.

VII. Proposed Additions to the Commission.

The Commission draws attention to the fact that, on the above programme, it is hoping to obtain extensive assistance from German experts, while as yet there is no representative of that country on the Commission itself. It recommends, therefore, that Dr. Hamel be invited to become a member of the Commission. Moreover, in consequence of the information given to the Commission by Dr. Nagayo that special cancer studies on the lines of those of the Commission are being undertaken in Japan, it recommends that a similar invitation should be extended to him.

Appendix.

List of Documents distributed.

1. "Les cancers professionnels", by Dr. Roussy and Dr. Héraux.
2. "Tumeurs professionnelles" according to a report submitted to the International Labour Office by Dr. Bayet, Brussels.
3. "La radiothérapie du cancer du col de l'utérus à la clinique gynécologique universitaire d'Amsterdam au cours de la période 1923-1927", by Dr. van Rooy, Dr. Jansen and Dr. Salomonson.
4. "Le traitement des cancers du col de l'utérus par les radiations", by Dr. Cl. Régaud.
5. "Enquête de contrôle du groupe italien sur le cancer du sein": Part I, by Professor Niceforo; Part II, by Professor Fichera.
6. "Considération sur la fréquence du cancer de l'utérus en Italie", by Professor E. Pestalozza (C.H./Cancer/55.).
7. "La signification des observations statistiques anatomiques faites sur le cancer pendant huit années dans sept instituts italiens d'anatomie pathologique", by Professor A. Dionisi (C.H./Cancer/54 and Annexes).
8. Report by Professor Fichera upon "Le cancer du sein et d'autres sièges, en Italie".
9. "Radiologues", according to a report submitted to the International Labour Office by Professor Perussia, Milan.
10. "L'Istituto nazionale Vittorio Emmanuele III por lo studio e la cura del cancro in Milano", by Professor Fichera.
11. "Répartition du cancer selon les groupes ethniques au Japon", by Professor Eug. Pittard.
12. "Etude statistique de la mortalité cancéreuse au Japon", by Dr. Hiroshi Kusama.
13. "Note préliminaire sur l'hérédité du cancer", by Professor H. Th. Deelman, of Groningen.

C.H.707.

ANNEX 3.

REPORT ON THE WORK OF THE SMALLPOX AND VACCINATION COMMISSION.

Submitted to the Committee on May 1st, 1928.

Geneva, April 27th, 1928.

The Smallpox and Vaccination Commission met on April 25th and 26th, 1928 and considered the position of its work under the following heads:

I. Enquiries into the Incidence and Character of Smallpox in Different European Countries.

Since our last session, the Epidemiological Intelligence Service has been so good as to collect data with regard to the incidence and character of smallpox in different European countries during the course of the last two years. This work has been of advantage to the Service and to us.

These data concern England, Switzerland, the Union of Socialist Soviet Republics, Latvia, Estonia, Roumania, Bulgaria, Hungary, Czechoslovakia, Germany, Belgium, Greece and France. They are prefaced by a table of the cases and deaths notified in European countries between 1919 and 1927. Examination of this documentation and statistical data incomplete as they necessarily are at this stage, gives certain indications of a general order which deserve mention.

(*a*) Smallpox is on the decrease almost everywhere, with the exception of England and Wales, where the alastrimic form of the disease of an exceedingly mild type is widespread. This form of smallpox has been known also in Switzerland during the last three years in certain cantons, where it no longer exists. From Portugal it passed to the Azores in 1923.

Taking Europe as a whole and comparing the general prevalence eight years ago with that of to-day, it may be said that smallpox has declined to almost insignificant proportions. Can this be attributed to more general vaccination ? Without doubt. But it is quite possible that periodicity and a more or less spontaneous change in type, of a kind met with in other important epidemic diseases, are also amongst the factors which have been operating.

Not only has there been a decrease in the incidence but often also a decrease in the severity of the disease. Taking, for example, the figures for Italy, a country in which smallpox morbidity after the war amounted to tens of thousands of cases, but where the cases to-day can be counted in tens or in simple units, the fatality (case mortality) rates here fell from 50 per cent or 40 per cent to 25 or 20 per cent, and subsequently to approximately 10 per cent. This last figure (10 per cent) indeed might be taken as representing a general fatality rate for the usual form of smallpox. This figure, however, must be adopted with a reservation, because it is not known whether the alastrimic form also occurs and because sufficient information is not available regarding the vaccinal conditions of the cases and other important factors. In a small outbreak in a rural area in Portugal, the case mortality rate was not above 6 per cent.

(*b*) Only sporadic cases of the disease are reported in less densely populated countries Occasionally, it has been possible to trace the original source of infection, but more often this is impossible, the cases having been widely separated in time and space without any apparent connection between them. This phenomenon seems to be similar to that experienced in connection with other infectious diseases, such as measles or scarlet fever.

It should be noted that in Roumania two cases occurred in association with " sheep-pox ". " Sheep-pox " belongs to the smallpox family, and perhaps this virus is only a derivative of that of smallpox, as is vaccine.

Isolated cases can be severe and hæmorrhagic in type. Two instances of this have been disclosed by the enquiry — one in Germany and the other in Estonia, both cases occurring in very young unvaccinated children.

These localities where the disease does not exist in epidemic form, and where sporadic cases are of rare occurrence, can be the cause of infection elsewhere. Mention is made in the enquiry of a case observed in Hamburg, where the infection was imported from Lisbon, in which city smallpox is very rare. We have also noted a curious fact reported by Dr. Chapin, Medical Officer of Health, Providence. A Portuguese boy, born in America, came to visit his relatives in Portugal last September; he stayed for some days in Lisbon; on his return to Valley Hall in America, he developed smallpox and gave rise to five other cases, which Dr. Chapin classified as alastrim. In the part of Lisbon where the boy stayed no case of smallpox had been observed for three months. During the two months of August and September, only five cases had been notified in the city as a whole. Sufficient indication is not available to make it possible to state that alastrim exists at Lisbon.

(*c*) The enquiry has elicited cases notified as smallpox which have later been recognised as chicken-pox. It is important, especially during an epidemic, to differentiate these pseudo-smallpox cases.

The Commission considers that the enquiry has proved to be useful and should be continued. At present restricted to Europe, it should be extended and made to include certain countries outside Europe from which, according to suggestions made to the Commission, it seems probable that useful information could be obtained, notably in North America and the Dutch Indies. It is very desirable that both cases and deaths should be classified by age and according to vaccinal conditions. Such data would enable us to draw conclusions as to the part played by vaccination in the declining morbidity and mortality. Moreover, it is only by limiting ourselves to the unvaccinated population that we can obtain satisfactory evidence that the natural severity of the disease is declining. The influence of age on the incidence of the disease and its gravity should also be determined wherever possible.

Although in certain countries smallpox is now confined to places scattered throughout the territory, small epidemics are observed here and there in rural areas. In such cases, it is very desirable that the figures concerning these small epidemics should be separated from the general figures. An individual study of such small homogeneous outbreaks, which are easy to keep under observation, occurring as they do in a limited area, such as villages, is most desirable. As such data are received by the Epidemiological Intelligence Service, they should be communicated to the members of the Commission. The Commission hopes, at a later stage, to review the data which have been collected in the light of other experience of the epidemiology of smallpox, including the reports which have been furnished to the Office international d'hygiène publique.

II. Enquiries as to Affections of the Nervous System occurring after Vaccination.

With reference to so-called post-vaccinal encephalitis, the Commission proposes that this question should be considered at a special meeting of the Commission, to which experts should

be invited. The question is one of capital importance, both from the epidemiological and prophylactic points of view. It interests several countries where cases have been reported, more especially England and the Netherlands. In the latter country, the application of the law concerning compulsory vaccination at school-age has just been suspended for a year in view of this serious, though rare, complication. It is an international duty to consider this situation, and to endeavour, by the co-ordination of researches and investigations, to find a solution to a problem of such urgency for preventive medicine. The report of the English Commission is about to be published, and investigations by the Netherlands Commission are in progress. Within three months from now, valuable documentation should be available, so that, if the Health Committee approves this proposal, the Commission could meet during the month of August.

III. Further Work based on the Programme adopted at The Hague, 1926.

Under this heading, the Commission has considered a memorandum prepared by its President, which is annexed to this report (see Appendix). The different investigations contemplated in this memorandum have already been approved in principle as desirable for study; but, as it is necessary to proceed by steps, the Commission proposes to give precedence to such matter as appears ripe for consideration and will not involve a very long study. In this connection, it recommends that further consideration should be given by the Commission, with the assistance of its experts, to the particular investigations which have been suggested by Sir George Buchanan in the note annexed to the Chairman's general memorandum. The opportunity which will be afforded by the next session of the Commission to consider post-vaccinal encephalitis may advantageously be taken to continue the examination of this question also, with expert assistance.

Proposals of the Smallpox and Vaccination Commission.

The Smallpox and Vaccination Commission, subject to the approval of the Health Committee, proposes:

1. To continue, by the aid of the Epidemiological Intelligence Service, to obtain information on the incidence and character of the smallpox now prevailing in Europe and certain countries outside Europe with the view to the preparation, in due course, of a special report on this subject.

2. To review, at the earliest possible date, the evidence regarding the extent, characteristics and causation of the conditions termed post-vaccinal encephalitis which has now been observed in many countries. For this purpose, efforts should be made to hold a meeting in the month of August, at which the Commission will have the advice and assistance of its experts.

3. To take steps, in consultation with the experts, to give effect to outstanding items of the programme of the Hague Conference, 1926, such as are indicated in the memorandum annexed to this report.

Appendix.

I. Draft Proposals taking into account the Suggestions of Sir George Buchanan.

By Professor Ricardo Jorge.

Vaccine: — In addition to the subjects already dealt with by the enquiry carried out according to the questionnaire approved by the Hague Conference, further enquiry should be carried out in the principal vaccine institutes to ascertain:

A. 1. The nature, origin and age of the strains of lymph employed.

2. Whether, since the introduction of these strains, their virulence has lessened, and whether recourse has been had to passage through other animals, notably rabbits, to recover the lost strength; the date from which such a method of reinforcement of activity has been employed should be stated; whether it is frequently used; and if by such a method, or otherwise, the vaccine has become increasingly active.

3. The methods employed for the titration of the vaccine lymph and the degree of dilution. Have these dilutions remained constant, or has one had to increase them progressively?

4. The technique and dose of human vaccination. Are scarifications used? If so, their number and size should be stated. Are simple punctures used? Is the modern American method of Leake used with success? What are the ages at which primary vaccinations and revaccinations are performed? What are the methods used?

B. It is desirable that laboratory experiments and tests be carried out with selected strains to ascertain if vaccinia viruses are absolutely identical, or if varieties exist.

C. As immunisation is the aim of vaccination, the question arises whether it would be possible to measure the degree of this immunisation in man and animals, and if local reactions (either the immediate reaction of Pirquet or the later reaction, vesical and pustule formation) afford an index of the immunity conferred.

D. Is it possible to kill or attenuate the vaccinia virus without depriving it of its immunising power? Experiments should be carried out in this direction.

E. Can the viruses of other animal diseases allied to smallpox replace cow-pox?

Smallpox Viruses. — A collective study of the chief viruses of the smallpox family and their relation to one another would be useful.

II. Note by Sir George Buchanan.

1. At the present time, we appear to have good reason for endeavouring to obtain more exact knowledge regarding the possibilities of using vaccine lymph which is more dilute than that ordinarily used. In the first place, when we are dealing with the alastrim variety of smallpox, it is found that the reluctance of the population to accept vaccination sometimes results from a comparison between the certain discomfort of vaccination, as practised with lymph of ordinary strength, with the possible risk of contracting a disease of slight intensity. In the second place, it is not impossible that risks of nervous complications might be substantially diminished by the use of a more dilute lymph. The question of the degree of dilution which may be permitted should be tested by means of observations on the human subject. The criterion would be obtaining a characteristic reaction. The lymph pulp would be diluted to different degrees, perhaps as low as one in a hundred, and the results observed and recorded in a sufficient number of cases. Such observations should show:

(*a*) What difference, if any, there is between the local reaction and the constitutional disturbance produced by the diluted lymph as compared with the same lymph at the normal strength at which it is at present employed.

(*b*) What difference, if any, exists between the immunity which is set up by different dilutions of lymph when tested by the Pirquet reaction (*i.e.*, the immediate reaction of the Americans.)

The above might be done with advantage in the vaccination practice of several countries and institutes, and the results compared. Side by side with this, work might be done with the same lymph, on the lines indicated in Dr. Gordon' special report (1925, page 84)[1], to determine the minimal infective dosage of the virus on the skin of the rabbit.

2. Another practical point is the relationship of the various strains of vaccine which are in use by different lymph establishments all over the world at the present time. Questions are always being asked about the origin of particular lymph strains on the assumption that very great importance attaches to the pedigree of the lymph, according to whether it is descended from an original vaccine such as Jenner's cow-pox, or has been obtained recently or remotely from human smallpox, or again, according to the extent to which the calf lymph has passed through a series of rabbits or other non-bovine animals.

If this is taken up, we might arrange for certain typical vaccine institutes to send each other their vaccine pulp for comparative testing.

I have put these suggestions, 1 and 2, first because they seem easily feasible to obtain with a little organisation and without much expenditure. There are many and much bigger problems in the programme which one would like to see pursued, but which would probably require more preliminary consideration and a good deal more time. Those which especially occur to me are:

3. Would it be well to invite some vaccine authorities, such as Professor Gins, to make experiments with a view to determining the comparative nature of a few disinfectants, such as ethers, phenol, etc., on different viruses, *e.g.*, vaccine, herpes, rabies, and foot-and-mouth virus ? It may well be that the future of vaccination may lie with the virus which is a killed virus in the same sense as the carbolised virus for rabies is a killed virus.

4. Another and allied suggestion would be to invite some one expert authority to prepare for us a detailed monograph summarising the present knowledge on the mutual relationship of these different viruses — in other words, expanding from the pathological side the observations and studies of the literature on this subject which Professor Ricardo Jorge has himself given us in his several reports to the Commission and to the Office international d'hygiène publique.

C.H./Variole/25

ANNEX 4.

SMALLPOX IN EUROPE.

Geneva, April 26th, 1928.

Memorandum by the Secretariat, submitted to the Committee on May 1st, 1928.

In accordance with a resolution adopted by the Health Committee at its last session (October-November 1927), European sanitary administrations have been asked to furnish information on the incidence and character of smallpox that has occurred in their respective countries during 1926 and 1927, and to supply full information as regards future cases which may occur. The following notes are based chiefly on the replies received.

At the last meeting of the Health Committee, attention was directed to the remarkable decrease in the incidence of smallpox that had been noted in European countries during recent years. England and Wales offer the sole exception to this general rule; here the mild form of smallpox, or alastrim, has been almost exclusively present, and its prevalence has increased year

[1] See Report No. 98 in the Medical Research Council's Special Series Reports.

by year, but has been responsible for a mortality that is almost negligible. This mild form of the disease has been conspicuously absent from Continental Europe, with the exception of Switzerland, where, between 1921 and 1926, it persisted in epidemic form. At the present time, the alastrim form of the disease appears to be exclusively confined to England and Wales, so far as Europe is concerned.

In the following table are set out the number of cases and deaths that have been ascribed to smallpox in each European country year by year since the war. The figures given are those officially reported. The deaths are in most cases based on figures supplied by the national statistical offices, and differ in a few cases from those given by the health administrations. Where such discrepancies are noteworthy, attention is directed to them in this note. Figures for four administrations on the Mediterranean coast of Africa have been included in view of the fact that from them smallpox infection has been introduced not infrequently into Europe during the past two years.

SMALLPOX CASES REPORTED IN EUROPEAN AND NORTH AFRICAN COUNTRIES FROM 1919 TO 1927.

Country	1919	1920	1921	1922	1923	1924	1925	1926	1927
Europe:									
Austria	411	253	18	4	17	0	0	0	0
Belgium	42	91	21	23	31	31	12	3	0
Bulgaria	874	527	22	24	20	5	0	1	3
Czechoslovakia	11,209	4,529	1,542	70	36	9	3	1	0
Danzig	185	22	0	0	0	0	0	0	0
Denmark	0	0	7	0	0	25	0	0	0
England and Wales	294	263	315	973	2,485	3,765	5,365	10,255	14,767
Estonia	267	435	136	50	13	4	5	6	4
Finland	1,759	77	27	91	12	1	2	1	0
France	572	392	341	172	195	210	456	554	410
Germany	5,012	2,042	688	215	17	16	24	7	4
Gibraltar	0	0	0	3	0	6	3	0	0
Greece	—	—	—	—	2,116	250	16	27	106
Hungary	—	—	131	2	9	1	0	0	0
Ireland, Northern	—	—	—	—	0	1	0	0	0
Italy	34,365	26,453	4,644	534	495	430	204	112	59
Latvia	—	422	255	160	23	25	17	3	1
Lithuania	—	1,213	1,035	345	25	58	12	3	2
Luxemburg	0	0	0	0	0	0	0	2	0
Malta	—	—	—	1	0	0	84	20	0
Netherlands	5	50	1	0	2	3	2	13	0
Norway (towns)	0	0	1	0	0	0	1	0	2
Poland	1,864	3,948	5,078	2,399	502	861	77	69	36
Portugal	—	—	—	—	—	—	—	—	1,169[1]
Roumania	20,523	3,467	2,744	865	89	9	28	6	2
Kingdom of the Serbs, Croats and Slovenes	—	4,156	2,119	728	1,042	330	14	4	3
Scotland	9	725	106	7	3	4	2	0	164
Spain	—	—	—	—	—	—	—	—	—
Sweden	7	11	2	0	0	1	0	0	0
Switzerland	3	2	596	1,159	2,145	1,234	351	57	0
Ukraine									
Union of Socialist Soviet Rep.	—	34,730	28,123	11,095	3,710	1,188	501	278	164
Other territories in Europe	169,545	121,587	68,503	40,839	29,133	20,412	10,927	9,946	4,649
Northern Africa:									
Algeria	812	1,172	755	184	141	383	1,747	2,473	4,336
Egypt	7,928	3,021	93	309	519	709	762	2,677	240
French Protectorate of Morocco	—	—	—	—	—	—	—	—	1,289
Tunis	—	—	—	—	279	606	1,270	188	93

[1] 6 Months, July to December.

SMALLPOX DEATHS REPORTED IN EUROPEAN AND NORTH AFRICAN COUNTRIES FROM 1919 TO 1927.

Country	1919	1920	1921	1922	1923	1924	1925	1926	1927
Europe:									
Austria . . .	96	46	1	0	0	0	0	0	0
Belgium . .	31	45	12	15	30	16	0	—	—
Bulgaria . .	96	70	5	3	6	0	0	0	0
Czechoslovakia. . . .	1,886	723	312	11	5	33	38	9	5
Danzig . . .	36	3	0	0	0	0	0	0	0
Denmark . .	0	0	1	0	0	2	0	0	0
England and Wales . .	28	30	5	27	7	8	0	11	49
Estonia. . .	—	—	—	—	5	4	5	5	7
Finland . .	430	18	2	7	—	—	—	—	—
France . . .	159	113	96	—	—	—	113		
Germany . .	704	332	109	26	10	6	9	0	1
Gibraltar	—	—	—	—	—	—	—	—	—
Greece . .	—	—	—	—	683	50	4	1	3
Hungary . .	—	—	25	0	4	0	0	0	0
Ireland, Northern	0	1	0	0	0	0	0	0	0
Italy	16,380	11,037	1,360	37	16	46	13		
Latvia . . .	474	57	26	1	0				
Lithuania .	—	196	121	30	0	12	0	0	0
Luxemburg	0	0	0	0	0	2	0	—	0
Malta . . .	—	—	—	0	0	0	16	3	0
Netherlands	0	0	0	0	0	0	0	2	0
Norway (towns) .	0	0	0	0	0	0	0	0	0
Poland . . .	264	687	825	519	83	126	3	5	5
Portugal . .	8,864	1,208	267	191	—	—	—	—[1]	140[1]
Roumania .	5,834	781	560	153	11	1	2	1	1
Kingdom of the Serbs, Croats and Slovenes	—	941	483	165	198	64	3	2	0
Scotland . .	0	152	24	0	0	0	0	0	0
Spain . . .	3,620	3,280	2,097	1,325	525	1,214	851	114	167
Sweden . .	1	0	1	0	0	0	0	0	0
Switzerland	0	0	7	3	2	2	1	1	0
Ukraine . .									
Union of Socialist Soviet Repub.	—	—	—	—	—	—	—	—	—
Other territories in Europe .	—	—	—	—	—	—	—	—	—
Northern Africa:									
Algeria . . .	—	—	—	—	—	—	—	—	—
Egypt . . .	1,938	805	24	90	145	221	158	544	34
French Protectorate of Morocco .	—	—	—	—	—	—	—	—	—
Tunis. . . .	—	—	—	—	—	—	—	—	—

[1] Six months, July to December.

England and Wales.

Space does not allow of anything like a complete description of the smallpox experiences of England during the last few years. Most complete and informing summaries have been published each year in the Annual Reports of the Chief Medical Officer of the Ministry of Health. Here attention will be directed to a few facts of outstanding interest and importance.

From the beginning of 1923 to the end of 1927, 36,563 cases, with 81 deaths, were attributed to smallpox. The disease has been limited largely to the North of England and the Midlands. Thus, of the 10,141 cases reported in 1926, no less than 10,070 were reported from six counties:

Durham	6,645
Yorkshire	1,270
Derbyshire	982
Northumberland	843
Nottinghamshire	191
Lancashire	139
	10,070

In the previous year, 1925, this concentration of infection was less marked. The cases of smallpox reported in that year were only half as numerous as those in 1926, but they were reported from twenty-two counties as compared with fourteen only in 1926.

During the winter of 1927-28, a wider diffusion of infection has taken place. During the first quarter of 1928, cases have been reported from thirty-eight counties. The outbreak in the northern counties is less severe than it was a year ago. There is at present an important centre of infection in South Wales. During the first three months of 1928, 4,711 cases have been reported. In a consideration of the limitation of spread during the earlier years, several facts have to be taken into consideration in addition to the nature of the virus itself. A considerable proportion of the population has been protected by army vaccination; the control of cases and contacts by local authorities has been carefully exercised in most areas; and vaccination in the face of the epidemic has proved successful, sufficient Government lymph having been always available.

The disease has been most in evidence in the spring and the autumn.

From a clinical point of view, the differences between this disease and classical smallpox have been differences of degree rather than of kind. As evidenced by the above figures, the case mortality rate is almost negligible. Prodromal rashes have occurred. In some cases delirium has been noted. Secondary fever is generally absent. The distribution of pustules resembles very constantly that of the very severe type of the disease. The rash may appear on the extremities twenty-four hours later than on the face. The lesions may pass through the various stages very rapidly, or may abort. Permanent loss of vision has been recorded. In spite of the fact that all the above symptoms are met with in classical smallpox, there is a remarkable absence of any correlation between the outward signs of the severity of the disease and the general state of the patient, which is almost invariably relatively good. Severity of initial symptoms by no means indicates a severe attack. Certain observations that have been made indicate the possibility of cases occurring without a rash of any kind. Vaccination within ten years appears to give complete immunity to the disease; thus, in 1926, there was not a single case among children below 12 years of age who had been vaccinated in infancy, whereas there were no less than 3,980 cases among children less than 12 years of age who had never been vaccinated. In doubtful cases, vaccination is a most useful aid to diagnosis. Very little is known as to the duration of the immunity to vaccination conferred either by an attack of mild smallpox or a mild attack of classical smallpox. Observations by Garrow indicate that there is little if any immunity to vaccination twelve months after an attack of mild smallpox, such as is now prevalent in England. No second attacks have been noted.

Side by side with mild smallpox, the classical form of the disease has been introduced into England several times during the last few years, generally from the continent of Europe.

From an administrative point of view, the mild form of smallpox has been treated in every way as if it had been classical smallpox. If this were not done, the administrative measures that are so essential whenever the classical form of the disease is introduced would be very difficult to carry out. Moreover, though there is no mortality, a few patients are very ill. Hospital accommodation has to be provided, at considerable cost to the local authorities. The loss of work and wages is also serious. Therefore, from every point of view, it is considered important to take all possible measures for the control and eventual eradication of the disease.

Switzerland.

In relation to the existing epidemic of mild smallpox in England, the experiences of Switzerland from 1921 to 1926 are of considerable interest. As stated above, the Swiss outbreak is the only epidemic on any considerable scale of the mild form of the disease yet reported on the continent of Europe.

In 1921, there was a small localised outbreak of classical smallpox in Basle. Forty-four cases were reported, of which 7 terminated fatally. The infection was imported from abroad, and there was nothing extraordinary or exceptional about the outbreak. Shortly after, numerous cases of mild smallpox were reported in the canton of Glarus. One hundred cases had occurred before energetic measures were adopted, which included the isolation of patients and the general vaccination of the population. Thanks to these measures, the disease disappeared from Glarus early in 1922. In this canton 362 cases were notified, without a single death. Chiefly because of the mild nature of the disease, the source of infection was never established. It can be stated, however, that there was no connection between the outbreak in Glarus and that of classical smallpox in Basle. Some of the cases were extremely ill, and in these, at any rate, there was not the least doubt as to diagnosis. The disease appeared almost simultaneously near Zurich. Here, as in Glarus, the early cases were confused with chicken-pox. Thus began an epidemic which spread between 1921 and 1926 over a large part of Switzerland. French Switzerland and the cantons of Grisons and Ticino, in which cantons vaccination is compulsory, escaped in a most striking manner. This fact alone is sufficient proof that the disease in question was really smallpox. The following table gives the number of cases and deaths reported in the different cantons each year from 1921 to 1926.

Smallpox in Switzerland, 1921 to 1926.

Cantons	1921		1922		1923		1924		1925		1926		Total	
	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.
Zurich	182	—	557	1	242	1	79	1	1	—	—	—	1,061	3
Berne	—	—	402	—	1,315	1	725	1	54	1	5	—	2,501	3
Lucerne	—	—	14	—	145	—	258	—	183	—	5	—	605	—
Uri	—	—	—	—	6	—	27	—	—	—	—	—	33	—
Schwytz	—	—	10	—	2	—	13	—	6	—	—	—	31	—
Obwald	—	—	—	—	—	—	21	—	65	—	16	1	102	1
Nidwald	—	—	—	—	—	—	1	—	6	—	12	—	19	—
Glarus	341	—	21	—	—	—	—	—	—	—	—	—	362	—
Zug	1	—	2	—	5	—	12	—	1	—	—	—	21	—
Fribourg	—	—	—	—	—	—	7	—	—	—	—	—	7	—
Soleure	1	—	—	—	41	—	9	—	1	—	1	—	53	—
Basle-Urban	44	7	3	—	35	—	5	—	2	—	—	—	89	7
Basle-Rural	1	—	30	—	30	—	6	—	7	—	—	—	74	—
Appenzell (Outer Rhodes)	—	—	—	—	14	—	—	—	—	—	—	—	14	—
Appenzell (Inner Rhodes)	—	—	—	—	34	—	—	—	—	—	—	—	34	—
Saint-Gall	8	—	29	—	60	—	8	—	—	—	1	—	106	—
Grisons	—	—	1	—	—	—	—	—	1	—	—	—	2	—
Aargau	16	—	25	1	149	—	94	—	2	—	—	—	286	1
Thurgau	—	—	60	—	60	—	3	—	—	—	1	—	124	—
Ticino	—	—	5	—	2	—	—	—	—	—	1	—	8	—
Vaud	—	—	—	—	5	—	3	—	—	—	—	—	8	—
Neuchâtel	1	—	—	—	—	—	3	—	—	—	—	—	4	—
Geneva	1	—	—	—	—	—	—	—	—	—	6	—	7	—
Total	596	7	1,159	2	2,145	2	1,274	2	329	1	48	1	5,551	15

It will be noted that, during this period, 5,551 cases were reported, with 15 deaths. If from this number of deaths be subtracted the 7 that occurred in Basle, and which were caused by the classical form of the disease, the case mortality rate is reduced to 1 per thousand, a comparable rate to that of England.

The year 1926 witnessed the extinction of this widespread epidemic. In that year a small outbreak of 6 cases occurred in Geneva, 4 of which owed their origin to a case that was infected in Algeria. A case reported in Ticino was also infected abroad, apparently in Italy. The remaining cases reported in Switzerland in that year represent the termination of the widespread epidemic of mild smallpox. Largely owing to the mildness of the disease, many cases are believed to have

escaped detection. For this reason, it was extremely difficult in certain cases to establish the source of infection.

Of the 48 cases reported in 1926, 28 were mild, 16 were of average severity and 4 were severe cases. Of the 48 cases, 32 occurred among unvaccinated people.

The table reproduced below gives the distribution of the 4,576 cases according to age and vaccination condition.

SMALLPOX IN SWITZERLAND: DISTRIBUTION ACCORDING TO AGE AND STATE OF VACCINATION OF THE PATIENTS.

Age of patients	Vaccinated	Revaccinated	Not vaccinated	Total
Less than 1 year . .	—	—	69	69
Years 1– 4	2	—	286	288
» 5– 9	12	1	571	584
» 10–14	9	1	618	628
» 15–19	11	1	783	795
» 20–29	46	21	1,132	1,199
» 30–39	40	18	429	487
» 40–49	66	21	180	267
» 50–59	97	15	33	145
» 60–69	61	15	11	87
» 70–79	19	1	7	27
Total . . .	363	94	4,119	4,576

This table corroborates the English experience as to the almost absolute protection afforded by recent vaccination against smallpox of the alastrim type.

UNION OF SOCIALIST SOVIET REPUBLICS.

The highest incidence of smallpox in continental Europe in recent years has been reported from certain parts of the Union of Socialist Soviet Republics, but the persistent decrease in the number of cases notified throughout the territory is very remarkable. The figures for eight recent years for the whole territory are as follows:

Year	Total cases	Rate per 10,000 population
1919	186,755	30.0
1920	156,317	18.0
1921	114,046	12.0
1922	70,617	7.0
1923	47,617	3.8
1924	28,523	2.1
1925	18,514	1.3
1926	16,547	1.1

The figures for the last four years compare very favourably with those of the pre-war period. In 1912, the smallpox incidence rate was 5 per 10,000 inhabitants, and in 1913 4 per 10,000. The decline persisted in 1927 in the Russian Soviet Republic and in the Ukraine, the only two Republics for which figures for that year are as yet available.

The following table shows the recent trend of smallpox in the various component parts of the Union of Socialist Soviet Republics (cases per 10,000 inhabitants) :

	1924	1925	1926	1927
Russian Soviet Republic .	2.6	1.7	1.4	1.2
Ukraine	0.5	0.2	0.09	0.06
White Russia	0.5	0.4	0.3	
Azerbeidjan	2.0	0.5	0.9	
Armenia	0.1	0.1	0.2	—
Georgia	0.2	0.7	0.5	—
Turkmenistan	—	1.3	2.1	—
Uzbekistan	—	1.3	2.9	—

In 1927, only five Governments out of the twenty-eight which constitute the Soviet Republic of Russia had a smallpox incidence rate exceeding 1 per 10,000. These were:

Viatka	4.3
Penza	4.0
Samara	1.3
Toula	1.7
Oulianovsk	2.5

No other Government had a rate exceeding 0.4 per 10,000 inhabitants.

A high degree of prevalence still exists, however, in the Republics of Central Asia, Turkmenistan and Uzbekistan. Regions of high incidence are also to be found in the Middle Volga and Ural Districts and in the Republics of Bashkirs, Yakouts and Cossacks and in the Far East Republic, *i. e.*, in those parts of the Union which are inhabited by nationalities other than Russian.

At the present time, smallpox is very largely a rural disease in the Union. Cases that occur in the towns are sporadic in nature. In 1926, a very large number of the big towns were completely free from the disease. In that year, only 10 cases of smallpox were notified in all the towns of the Ukraine, with a combined population of close on 3,000,000 inhabitants.

The marked improvement evidenced by the above figures is testimony to the increasing efficiency with which vaccination is enforced. The Law of April 10th, 1909, made vaccination compulsory for all newborn children, for all entering schools or who join the army, the navy, industrial enterprises or other establishments. The law of October 1924 was still more rigid, making revaccination compulsory between the ages of 10 and 11 and of 20 and 21. Everybody is entitled to free vaccination. The Public Health Commissariat distributes vaccine to its provincial organisations free of charge. The Law of February 1927 lays down that in towns one vaccinator per 20,000 inhabitants has to be employed, and in rural districts one vaccinator for 25,000 inhabitants. Similar legislation is in force in all the Republics of the Union. In the Ukraine, three vaccinations are compulsory.

There are certain sparsely populated parts of Russia, however, inhabited for the most part by people of different nationalities, where these laws are difficult to enforce, and where vaccination is not as effectively carried out as it is in the more important centres.

The total number of vaccinations performed in the Union during recent years is as follows:

Year	Number Vaccinated	Rate per 10,000
1924	6,524,573	646.1
1925	7,718,527	825.2
1926	7,717,897	775.5

Vaccination is more efficiently carried out in towns than in rural areas. Thus, in 1926, vaccination in towns of the Union of Socialist Soviet Republics amounted to 1,057 per 10,000 inhabitants, whilst for rural areas the corresponding figure was 753 per 10,000 inhabitants.

In individual towns and Governments much higher figures are reported.

Vaccine is prepared at the Central Vaccine Institute of the Commissariat of Public Health, as well as in special departments of bacteriological institutes. The Central Institute was created in 1922, and carries out research with regard to the preparation and standardisation of vaccines. It prepares approximately 10,000,000 doses of vaccine a year. In 1926, the Central Institute and provincial institutes prepared altogether some 30,000,000 doses of vaccine. All vaccinations are entered on special forms and a certificate is given to the person vaccinated free of charge. These certificates have to be produced on entry to schools or when the individual concerned is engaged in a factory, etc.

Latvia.

In Latvia, three cases were notified in 1926 and only one in 1927. All three cases in 1926 occurred in the same house in a village in the Dvinsk district. None of the three patients had been vaccinated. All were uncomplicated mild cases, and all resulted in recovery. The first two patients fell ill on the same day (March 10th) and the third case fifteen days later. They were children of 4, 6 and 8 years respectively.

The evidence in favour of the accuracy of the diagnosis is not very convincing, and there is more than a possibility that these were actually cases of chicken-pox. The diagnosis was made by a medical assistant. Nowhere in the district had any cases of a disease resembling smallpox been noticed during the preceding six months.

The solitary case that occurred in 1927 was that of a girl aged 13 years. She had been vaccinated during the first year of life, and her attack was a mild one, without complications. The father of this case was an employee on the railways, and they lived in employees' barracks. It is thought possible that her father or one of the employee had brought infection from one of the long journeys which they were accustomed to make.

Estonia.

In Estonia, the decline in smallpox prevalence has also been noteworthy. In 1920, no less than 435 cases were reported. In 1926, there were 6 cases, and in 1927 only 4. Reference to the death returns, however, seems to indicate that notification is incomplete in rural areas. In some of these cases the diagnosis is, in the nature of things, open to some doubt. In 1926, 5 deaths were ascribed to smallpox, and in 1927, 7.

As full information as possible has been obtained regarding the 10 cases that were notified.

The first case, that of a child 8 months old, had never been vaccinated. The child was taken ill on May 2nd, 1926. Infection was supposed to have been contracted from workmen who had come from the province of Petsesimaa, where a case of smallpox had recently been reported. The child recovered.

The second case was also that of an unvaccinated child of 1 year of age. The disease was of the hæmorrhagic type, and ended fatally. The source of infection was not ascertainable. The whole population of that and of neighbouring villages was revaccinated, and no other cases occurred therein.

The third case that was notified was found on subsequent investigation to be a case of chicken-pox of a severe type.

The fourth case was that of a child 6 months old who had been vaccinated three days before the onset of symptoms.

The child recovered after a month's illness, which was described as mild confluent smallpox. There seems to be some doubt as to whether or not this was a case of generalised vaccinia. No contact with any smallpox patient was established.

The fifth case was that of a boy 8 years old who had been vaccinated six years previously. He suffered from a mild confluent form of smallpox and recovered. The source of infection was not traced.

The sixth case was the brother of the last patient and fell ill three days subsequently. He also had a mild attack of confluent smallpox and recovered.

Of the cases that occurred in 1927, three were members of the same family living in the province of Harjumaa. The first case was that of a girl aged 11 years. She had been vaccinated eight years previously. The infection was supposed to have been imported from England, the father of the child being a seaman. The child had a mild attack and recovered.

The second case, which occurred two days later, was that of a child of 3 years, brother of the previous patient. He had been vaccinated a year previously. He had a mild attack and recovered.

The third case, a child of 14 months, also of the same family, developed the disease five days after her sister. She had not been vaccinated. In this case the disease was somewhat more severe, but ended in recovery.

The fourth and last case, in 1927, was that of a girl aged 3 years, who had not been vaccinated, living in the province of Laanemaa. The rash was confluent, but the child recovered. The source of infection was undiscovered.

Roumania.

In 1926 and 1927, 8 cases of smallpox were notified in Roumania.

Before the war, smallpox was extremely rare in Roumania, the immunity of that country to the disease being readily explained by the strict enforcement of vaccination laws, which require compulsory vaccination of the newborn child, revaccination at school age and on entering military service. Towards the end of the war, however, a serious epidemic occurred, infection having been introduced from Russia. General vaccination of the population was applied throughout the country, with the results shown in the table on page 2[1].

All the 8 cases that were reported in 1926 and 1927 occurred in the eastern part of Roumania, 5 of them occu ring in the ports of Constantza, Braila and Galatz.

The first case (commune of Lunca) was that of a woman who had been vaccinated and revaccinated in her youth. The source of infection was not discovered as no case of smallpox, or any disease resembling smallpox, or even of chicken-pox, had been reported in the locality in which she was living. The entire population of the village was revaccinated.

Similar doubt was attached to the origin of infection in the second case (commune of Scanteia), an infant of 6 months of age, who had not yet been vaccinated. No smallpox-like disease could be found in the neighbourhood, but it is interesting to note that an epizootic of sheep-pox was prevalent in the village, and in close proximity to the house in which the child lived.

The third case was that of a man living in Focsani, who had been vaccinated in infancy and revaccinated, without success, at the beginning of the war, *i.e.*, twelve years previously. No contact with any smallpox patients was established. During the two months previous to his attack, numerous vaccinations had been carried out in the street in which the patient lived.

Two cases occurred at Braila at a month's interval. Both cases had recently arrived, one from Greece and the other from Transylvania, which was free from smallpox. Neither had ever been vaccinated. A case that occurred at Galatz had also recently arrived from Transylvania, probably in a state of incubation of the disease. There was in Galatz at the time no disease in any way resembling smallpox.

[1] See pages 71 and 72.

Two fatal cases were reported from Constantza, the first in September 1926, the second in May 1027. They came from widely separated communes. The first patient was admitted to hospital suffering from erysipelas, and developed fatal smallpox three days later. The second case was admitted to hospital for cellulitis of the hand and forearm. Both patients had been vaccinated and revaccinated, with success, during their youth. No disease of the smallpox group of infections was prevalent in the commune from which the first patient came, but the second patient came from a locality in which an epizootic of sheep-pox was prevailing when he left it, just before his admission to hospital.

It is noteworthy that, of these 8 cases, no less than four occurred among unvaccinated people, in a country where unvaccinated persons are exceptionally difficult to find. The association of two of the cases with concomitant sheep-pox is interesting. In none of the cases was it possible to trace definitely the source of infection.

Bulgaria.

Bulgaria has been almost completely free from smallpox during the last three years. The prevalence of the disease was considerable in that country immediately after the war. Thus, in 1919 and 1920, 874 and 527 cases respectively were notified. The number of notifications for 1925, 1926 and 1927 were 0, 1 and 3 respectively.

The case reported in 1926 was that of a man 46 years of age, who had been vaccinated in infancy and never revaccinated. The source of infection was never ascertained. This was the first case that had ever been reported from the village in question, and nowhere in the locality had any cases been observed remotely resembling smallpox. The patient recovered without complications.

The three cases ascribed to smallpox during 1927 all turned out on further investigation to be cases of chicken-pox. Almost absolute proof of this was furnished by the fact that the first case was vaccinated during convalescence with a positive result. The second child was revaccinated eight months after recovery with a similar positive result.

Greece.

A preliminary note received from the Director of Health of Greece emphasises the progressively lowered incidence which has been observed during the last few years. Not only has the disease become less prevalent, but it has also become relatively mild. No hæmorrhagic case has been reported during the last few years.

Confluent smallpox is very rarely met with. The vast majority of the cases have been in the nature of " varioloid ". The case mortality rate appears to have diminished very considerably. Thus, of 16 cases reported in 1925, 4 died; in 1926 there was only 1 death in 27 cases, and in 1927 there were 2 deaths among 16 cases. Previously to these last three years, smallpox was very widespread in Greece, confluent and hæmorrhagic types of the disease predominating.

A certain number of cases reported during the last two years were so mild as to be confused with chicken-pox. Numerous cases notified as smallpox turned out on investigation to be chicken-pox. The Director of Health is of opinion that there are no epidemiological differences between the mild form of smallpox called alastrim and the classical form of the disease.

In Greece, the mild type has been found alongside the serious type of the disease.

The decreasing prevalence as well as the mildness of the infection in Greece are ascribed to vaccination and revaccination, which has been applied in a systematic manner since 1923.

Hungary.

An enquiry has been made into the 4 cases of smallpox notified as having occurred in Hungary during 1926 and 1927 by the Director of the State Hygiene Institute in Budapest.

Enquiry has shown that not one of the 4 cases was really smallpox. Each was due to a reporting error.

Czechoslovakia.

The cases and deaths from smallpox officially notified in Czechoslovakia during the last four years were as follows:

Year	Cases	Deaths
1924 . . .	9	2
1925 . . .	3	1
1926 . . .	1	1
1927 . . .	0	0

A fatal case, ascribed to smallpox, in 1926, was found on subsequent investigation to have been due to glanders.

Thus, according to official reports, Czechoslovakia was free from smallpox during the years 1926 and 1927. The Death Returns, however, as issued by the Central Statistical Bureau of Czechoslovakia, disclose that during the four years mentioned above no less than 33, 38, 9 and 5 deaths were ascribed to smallpox. The Ministry of Health is now making an enquiry into the circumstances of these deaths that were attributed to unnotified smallpox, the results of which have not yet been received.

Germany.

In 1926 and 1927, 11 cases of smallpox were notified in Germany. The first occurred on January 5th, 1926, in the province of Malchin. It was a moderately severe case, in a child, aged 4, who had been vaccinated in infancy. She recovered after a month's illness. The source of infection was not traced.

On April 17th of that year, a case was reported in Upper Silesia — a man aged 30, who had been vaccinated in infancy and unsuccessfully revaccinated in 1907. He developed a mild attack and recovered after four weeks' illness. In this case also the source of infection was not ascertained.

The next four cases all occurred in the Düsseldorf district, on September 1st, 2nd, 3rd and 20th, 1926. The last three of these cases, a male aged 20 and two children of 6 years and 1 year of age respectively, all occurred in the same house. All three suffered from mild attacks in spite of the fact that the child of 1 year of age had never been vaccinated. The man aged 20 and the child 6 years had both been vaccinated in infancy and had well-marked vaccination scars. All recovered after an illness which averaged about three and a half weeks.

The first case that occurred in Düsseldorf was that of a man aged 21, who was vaccinated in infancy and again in 1917. He had a mild confluent attack, the total duration of illness being three weeks. There was no obvious connection between this case and the three referred to above; the source of infection was not traced.

The last case in 1926 was that of a boy aged 9, in Sondershausen, who had been vaccinated when he was 2 years of age, and had four well-marked scars. His illness was of the severe hæmorrhagic form, but ended in recovery after somewhat more than a month's duration. Nothing is known of the source from which this patient was infected.

On January 16th, 1927, a case was reported in Dresden; a child 1 year of age who had never been vaccinated developed a severe hæmorrhagic attack of smallpox, from which he died six days later. The source of infection was not definitely traced; his father worked in a paper-mill.

The other three cases that occurred in 1927 all obtained their infection abroad.

A man aged 30 fell ill on June 18th, in Berlin. He had been vaccinated in infancy and revaccinated in 1914. He suffered from a mild attack lasting three weeks; he was believed to have been infected in Moscow.

The second case was that of a man aged 24, who had been vaccinated in childhood. He fell ill at Bremerhaven on November 22nd. He suffered from a mild form of discrete smallpox from which he recovered after an illness of four weeks. His infection was acquired on board ship. The boat in question had come from Jamaica, which was supposed to have been the source of infection.

The last case was that of a man aged 49, in Hamburg. He was taken ill on December 18th, 1927; his infection was acquired in Lisbon. It was a severe case, which, however, ended in recovery after nearly two months' illness. He stated that he had been vaccinated in childhood, but no marks of vaccination were found.

Belgium.

In Belgium, three cases were notified in 1926; not a single case was reported in 1927. The first case occurred on September 12th, 1926, and died eight days later. The diagnosis was fully confirmed. The patient had very recently returned from Paris, where, presumably, the infection was acquired. The second case occurred some three weeks later; this case recovered. Infection was traced to the first case. The third case was that of a child 2 years of age, who was on the point of death when first seen by the health inspector. The source of infection in this case was not discovered.

In Belgium, very full enquiries are made by a Government health official whenever a case of smallpox is notified, and every step is taken to verify the diagnosis.

France.

The following information concerning smallpox in France has been extracted from official returns received from the Central Health Service; annexes attached to a communication by

M. Lucien Camus to the International Health Congress, which was held at the Pasteur Institute, Paris, in October 1927; and from a report on the epidemics of smallpox in 1926 presented to the Académie de Médecine on behalf of the Commission des Epidémies by Professor Léon Bernard *(Bulletin de l'Académie de Médecine*, No. 39, XCVIII).

The present considerable prevalence of smallpox in France dates from 1922. In May of that year there was a small outbreak in the Toul district. Infection appears to have been introduced by a family of Polish workpeople. Subsequent hospital infections resulted in 12 cases, of which 2 died.

In 1923, 195 cases were reported throughout France, and in 1924, 210 cases.

In 1925, there were 456 cases, with 113 deaths, the Department of Haute-Garonne being responsible for 160 cases, with 45 deaths. This last outbreak commenced in Toulouse, in an unvaccinated Spanish quarter of the town, of which the occupation is rag-sorting. Some of the earlier cases were undiscovered, and, though numerous vaccinations were performed, it was some months before the outbreak was under control; infection was conveyed to other departments. At the end of 1925, 2 cases were discovered in the northern suburbs of Paris; the patients were an Algerian and his wife, who had arrived twelve days before. At the end of January 1926, an Arab and a woman living in the house occupied by this case also contracted smallpox. The subsequent outbreak in Paris lasted four months, 24 cases of smallpox being notified, of which 5 died. During this outbreak, 187,000 vaccinations were carried out in Paris.

Cases at St. Etienne, in July 1926, owed their infection to an Algerian, who fell ill a day after his landing in Marseilles.

At Douai, an outbreak began in September 1926 and lasted two months. The first case was that of an Algerian who had just arrived. There were 26 cases notified, of which 7 died. Compulsory vaccination was enforced.

At Valence, 12 cases, of which 5 were fatal, originated from infection introduced by an Arab coming from Algeria. He was admitted to hospital on November 15th, 1926, having landed at Marseilles on the 11th.

In December 1926, an outbreak of 7 cases, with 2 deaths, occurred in a lunatic asylum in Ardèche.

An outbreak at Provins was responsible for 17 cases and 4 deaths. The earliest cases were not recognised. Hospital infection played a considerable part in this small outbreak.

In the autumn of 1926, the disease reappeared in Paris. The first case was that of an Arab who was admitted to hospital on August 22nd, 1926, and died on the 29th. Between September 10th and 13th, 9 further cases were reported. They were scattered cases. Mild cases, continuing at work, and a certain amount of resistance to vaccination were factors contributing to the spread of the disease. On November 9th, the Prefect of the Seine reported that 76 cases had occurred, of which 16 had ended fatally. The Vaccination Service of the City of Paris carried out 400,516 vaccinations. The Vaccinations Service of the Prefecture of Police performed an additional 53,325 vaccinations.

The Claude-Bernard Hospital in 1926 treated 237 cases of smallpox up to the end of September, of which 82 died. Among those treated, women were twice as numerous as men; 49 cases were children, of which 29 died — a case mortality rate of 60 per cent. About one-fifth of the Paris cases were foreigners.

During the last quarter of 1926, the Valley of the Tinée was infected. Fifteen cases and 5 deaths occurred. Infection was introduced by an Arab from the Department of Constantine, and another Arab who had come direct from Algeria via Marseilles. The latter died rapidly from hæmorrhagic smallpox.

An outbreak at Montpellier lasted from January to March 1927, infection having been introduced from Constantine; 37 cases and 14 deaths occurred. Here, also, hospital infections were responsible for several cases.

In the Gers district, smallpox was imported from Spain in May 1927. Five cases occurred.

In Aveyron, 8 cases and 2 deaths occurred in July 1927.

This resumé, incomplete as it is, indicates that persons in the incubation stage of smallpox landing in France from overseas, chiefly Algeria, have frequently been accused of introducing infection.

The greater prevalence among women is an indication that women are less frequently revaccinated than are men. The mortality rates are relatively high. Fatal cases have occurred in almost all the outbreaks referred to above. All outbreaks appear to have been classical smallpox, and there is no indication of the existence in France of the mild or alastrim form of the disease, such as is at present prevalent in England.

In the following table is set out such information as has been received up to date regarding the number of cases and deaths attributed to smallpox in European and certain North African countries during the first three months of the present year. The figures are compared with those of the corresponding period of the previous year. It will be noted that there is a decreased prevalence in England and Wales, and that the prevalence in France is only one-fifth of what it was last year. Smallpox is likewise less in evidence in Algeria and Morocco than it was in the spring of 1927.

SMALLPOX CASES AND DEATHS REPORTED IN EUROPE AND NORTH AFRICAN COUNTRIES SINCE THE BEGINNING OF 1928.

Country	From January 1st up to:	1928		1927	
		Cases	Deaths	Cases	Deaths
Europe:					
Belgium	March 31st	1	0	0	0
England and Wales	March 31st	4,711	—	6,166	—
Estonia	February 29th	1	—	0	—
Finland	March 15th	2	—	0	—
France	February 29th	21	—	108	—
Germany	March 31st	2	0	1	1
Greece	March 15th	8	0	40	0
Italy	January 15th	3	—	3	—
Latvia	February 29th	1	—	0	—
Poland	March 24th	4	0	10	1
Portugal	February 29th	258	30	—	—
Union of Socialist Soviet Republics.	January 31st	875	—	735	—
Northern Africa:					
Algeria	March 31st	184	—	557	—
Egypt	March 4th	4	1	129	14
French Protectorate Morocco	March 31st	127	—	322	—
Tunis	April 1st	40	—	28	—

No smallpox case was reported in Bulgaria, Czechoslovakia, Denmark, Gibraltar, Hungary, Lithuania, Luxemburg, Malta and Roumania, either in January or February; in Sweden, no case up to March 15th; in the Kingdom of the Serbs, Croats and Slovenes, the Irish Free State, Northern Ireland, Scotland and Switzerland, no case up to March 31st. Norway was free from smallpox in January. No information for 1928 has been received as yet for Spain.

C. H. 690.

ANNEX 5.

REPORT BY THE MEDICAL DIRECTOR ON THE WORK OF THE HEALTH ORGANISATION SINCE OCTOBER 1927.

As the report on the work of the Health Organisation for the year 1927 (document A.10.1928. III) contains details of the work of the various Commissions and the Health Section up to the end of December 1927, and even gives the results of certain meetings held at the beginning of the year, the information now submitted to the Committee can be somewhat briefer in form than usual.

I propose in the present report to direct the Committee's attention to a number of new features in our current work instead of reverting to what has been done in the past or dwelling upon the regular routine work.

A. THE SERVICE OF EPIDEMIOLOGICAL INTELLIGENCE AND PUBLIC HEALTH STATISTICS.

I. GENEVA OFFICE.

1. *Publications.* — The improved method of presenting the material in the *Monthly Epidemiological Reports*, previously mentioned to the Health Committee, has now been completed. The change has resulted in an economy of space (26 pages of tables as compared with 50 pages a year ago), but at the same time permits the inclusion of new and important material and has the following advantages:

1. All data are now tabulated under " disease " headings, making reference easier.
2. Dysentery, undulant fever and measles are now included, whereas space for these diseases was formerly lacking.

3. When necessary, statistics concerning malaria, whooping cough, chicken-pox, anthrax, trachoma, puerperal fever, syphilis, gonorrhœa, Rocky Mountain spotted fever and miliary fever are given.

4. While figures regarding plague, cholera, yellow fever, smallpox and typhus are given every month, data concerning other diseases are included monthly only during the period of their seasonal prevalence. When less in evidence they are mentioned only every two or three months. Such are relapsing and enteric fevers, dysentery, influenza, epidemic cerebro-spinal meningitis, acute poliomyelitis, encephalitis lethargica, undulant fever, scarlet fever, diphtheria and measles.

5. The tables of mortality from specified causes in large towns have been further revised and now show the death rate from each particular cause for each of the three preceding years and the number of deaths reported in each quarter of those three years.

A similar policy has been followed in the composition of the " General Review ". Every issue contains detailed reference to plague, cholera and smallpox. Other diseases are dealt with as occasion demands. The space thus economised is devoted to a more complete analysis of morbidity and mortality statistics which are accumulating in our files.

Special subjects have received particular attention in various numbers. For example, the March 1928 number contained an analysis of the trend and incidence of syphilis in countries where its notification is compulsory. The geographical distribution of this disease in the United States of America and in the U.S.S.R. was illustrated by maps. An analysis of the prevalence by sex, age, race and civil status [1] was made. Statistics of mortality from syphilis, including general paralysis of the insane and tabes dorsalis, were shown for a series of years, and the movements of the mortality from general paralysis of the insane apart from other forms of syphilis were described.

Other special subjects dealt with in " General Reviews " have been the smallpox situation in 1927, the cholera epidemic in Iraq, the poliomyelitis epidemics in 1927, the course of natality and general mortality in various countries, and the movement of infected ships between ports reporting to the Singapore Bureau.

The February *Report* contained a summary of the history, etiology and geographical prevalence of yellow fever, with particular reference to its recent manifestations in West Africa.

2. *Yellow Fever.* — The marked revival of yellow fever in West Africa has been reported upon regularly in our publications. The disease reappeared in 1925 in Nigeria, on the Gold Coast, on the Ivory Coast and in French Sudan: altogether 37 cases were reported. In 1926, cases appeared also in Dahomey, the Upper Volta and Senegal: 74 cases in all. Senegal had not been infected with yellow fever since 1912. In 1927, there were serious epidemics in Senegal and in certain localities of the Gold Coast Colony; later it spread to Gambia, Portuguese Guinea, Liberia, Togoland, and at the end of the year to Boma and Matadi in Belgian Congo. Reports of 257 cases were received during the year. The difficulties of obtaining complete reports in these areas are, of course, considerable and these figures are indicative only of the progressive spread of the disease but not of its actual incidence.

It appears that in Senegal all reported cases were among Europeans, Syrians and half-breeds. Numerous cases among the natives were found, on the other hand, at Asamankese and Suhum in the Gold Coast Colony. In the Belgian Congo, the number of cases among Europeans and among natives were approximately equal and the case mortality rate was at least as high among the latter as among the former.

Our thanks are due to the Health Service of French West Africa at Dakar, from whom the Health Section received weekly reports by air-mail regarding the situation in Senegal and elsewhere. Telegraphic information was also received through the kind offices of the French and Belgian Colonial Offices and of the British Ministry of Health.

3. *Revision of the AA Cable Code.* — Work is progressing with the revision of the AA cable code, now used by the Singapore Bureau so as to make it serviceable for the telegraphic exchange of epidemiological intelligence between health services of all parts of the world.

A list of the ports and other geographical names, covering the entire world, has been prepared with the assistance of Dr. Brooke, formerly Director of the Singapore Bureau. Lists of phrases and words to be added have been prepared by the Singapore Bureau and by the Geneva Office.

Further valuable suggestions regarding additions have been received from Surgeon-General Cummings, of the United States Public Health Service.

The Australian Commonwealth Health Service has agreed to send suggestions for additions and modifications and further suggestions are expected from the Sanitary Maritime and Quarantine Board of Egypt with special reference to the needs of the pilgrim traffic.

These additions and modifications will be incorporated into the code and the resulting project will be submitted to administrations chiefly interested for further suggestions and approval. In

[1] Information as to whether the patients were single, married, etc.

view of the inconvenience attendant upon frequent revisions of a telegraphic code, it is desirable that every step be taken to ensure that it will meet all ordinary requirements before publication is decided upon.

II. Singapore Bureau.

During 1927, the value of the work of the Eastern Bureau at Singapore to the Far Eastern Health Administrations was considerably increased by the following developments:

1. Increase in the number of ports in communication with the Bureau. There are now 140 ports in weekly telegraphic communication with the Bureau, which may be said to have attained its maximum development along this line until it is possible to add Chinese ports. Eighteen important ports were added during the year. The new epidemiological centre at Melbourne now sends regular cables to the Bureau regarding health conditions in the Pacific Islands.

2. The amount of information collected has been increased by including whole countries as well as their ports; examples are: Federated Malay States (cholera, plague, smallpox, diphtheria and cerebro-spinal meningitis — by cable), Egypt (cholera and unusual outbreaks — by cable), Siam (cholera — by cable). In addition, a considerable amount of such information referring to whole countries is received regularly by post.

3. The weekly wireless bulletin, thus improved, was transmitted by means of an increasingly efficient network of wireless, which resulted in a considerable saving on cables. The message is transmitted by a number of powerful stations in code, and a summary in clear retransmitted by smaller stations, so that the opportunities for picking it up are much greater, especially for ships at sea. New wireless stations to transmit the message are those at Antananarivo, Mogadiscio and Karachi. The Japanese Government has generously agreed to have a Japanese station repeat the summary of the weekly message in clear at its own expense.

4. The amount and value of information in regard to infected ships was much improved. Thirty-five Far Eastern Public Health Administrations now notify the Bureau, usually by cable, of the arrival of infected ships at their ports. During the first eleven months of 1927, 162 ships were notified as infected, 65 with smallpox and 25 with cholera, etc. Infected west-bound ships leaving Panama are notified, and the Bureau now has in its possession all relevant information concerning the Hedjaz pilgrimage. This year eighteen pilgrim ships were notified to the Eastern Bureau as infected with smallpox on their arrival at various ports as a result of an outbreak at Jeddah which coincided with the disbandment of pilgrims. A resolution on the development of intelligence regarding infected shipping was adopted by the Advisory Council in December 1927, emphasising the value of this service to the various administrations.

Detailed information in regard to the Bureau may be found in the Annual Report of the Health Organisation for 1927 and in the Minutes and resolutions of the January and December 1927 sessions of the Advisory Council.

B. INTERCHANGES. — SYSTEM OF LIAISON WITH THE HEALTH ADMINISTRATIONS OF THE DIFFERENT COUNTRIES.

1. Since the last session of the Health Committee the Second International Health Course has been held in London, and a collective study tour has taken place in India. The final conference of the interchange in Germany coincided with the eleventh session of the Health Committee, and the members of the Committee were able to realise the high standard of the discussions and the participants' evident appreciation of the opportunities for observation and study they had been afforded by the Federal, State and local German health authorities.

2. The interchange in India — the second collective study tour organised by the Health Organisation of the League of Nations in the Far East — began in Delhi on January 1st, 1928, and ended on February 18th at Bombay. Fifteen medical officers of health from twelve administrations participated [1].

The participants studied successively the more important public health and medical work in the Punjab, United Provinces, Bihar and Orissa, Bengal, Assam, Madras, Mysore and Bombay.

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[1] Australia,
Ceylon,
China (2),
Egypt,
Federated Malay States,
French Indo-China (2),
Japan (2),
Netherlands East Indies,
New Zealand,
Philippines,
Siam,
Straits Settlements.

They were given every opportunity of observing at close range the work of the central, provincial and municipal public health services. Particular attention was paid to problems connected with the provision of safe water supplies and the proper disposal of sewage. Public health and medical institutions of every description were visited, full descriptions of the steps taken to prevent malaria were given, and the participants were afforded every opportunity of studying the anti-cholera programme, special attention being devoted to the measures applied to prevent the spread of cholera during fairs. Although a considerable time was given to subjects relating to tropical medicine and hygiene, opportunity was afforded to study the prevention of tuberculosis, child welfare, medical research work and other subjects which are of interest and importance to every country, wherever situated.

On assembling, the participants were presented with a volume of 388 pages dealing with the health organisation of British India, prepared by the officers of the central and provincial health departments. The members of the Health Committee have received copies of this volume, which gives a most complete picture of public health and medical organisation in India.

The interchange was opened by the Honourable Khan Bahadur Sir Mohammad HABIBULLAH, K.C.S.I., K.C.I.E., Kt., Member of the Governor-General's Council for Education, Health and Lands. The participants were accompanied on the first part of the tour by Dr. Th. MADSEN and Col. J. D. GRAHAM, who will no doubt desire to furnish further information in regard to the interchange to their colleagues. The Health Committee will wish, in the first place, to express to the Public Health Commissioner with the Government of India, and to the members of his staff concerned, its high appreciation of the painstaking care and attention which they devoted to the preparation and conduct of the interchange. The Committee will also wish to thank the officers of the provincial and municipal Governments for their hospitality and courtesy extended so freely to the participants.

At the suggestion of the Public Health Commissioner with the Government of India, the Honourable Member for Commerce and the Commissioner of Railways secured very considerable concessions on the railways all over India, thus reducing the estimated cost of such travel by about half, and the Health Committee will wish to record its appreciation of this generosity. Finally, the Committee will wish to signify its appreciation to all the other central and local agencies and individuals who, by their assistance and hospitality, added so much to the value of the interchange and combined to make it a memorable event in the experience of every participant.

3. The Second International Health Course was held in London at the headquarters of the Society of Medical Officers of Health, beginning on November 3rd, 1927, and ending on December 15th with a final conference in the library of the British Ministry of Health. There were twenty participants from seventeen public health administrations [1] and a number of other persons.

As circumstances necessitated restricting the course to a much shorter period than the first course, held in Paris, the theoretical and practical stages were combined, lectures being delivered in the morning; visits to public health and medical institutions were arranged in the afternoons, By this means the participants were enabled to visit a large number of the health administrations, hospitals, dispensaries, medical, sanitary and research institutions which abound in and near Greater London.

A list of the subjects and of the lectures has already been placed before the Health Committee (document C.579.M.205.1927.III, pp. 82-83).

The Committee will wish to thank all the lecturers, and in particular Sir George NEWMAN and Sir George BUCHANAN, for the time and attention they gave so freely to ensure the success of the course, and to express appreciation to the Society of Medical Officers of Health, as well as to all the individuals who contributed to the course during the practical stage. It is hardly necessary to add that the participants were received with the usual hospitality, to which they paid tribute on many occasions.

4. *Interchange on Rural Hygiene.* — In accordance with the decision of the Health Committee, plans have been completed for the interchange on rural hygiene, which is scheduled to begin on May 28th, 1928, in the Kingdom of the Serbs, Croats and Slovenes, and to end with a final conference at Geneva during the week of July 23rd. Selected rural districts will be visited successively in the following countries:

Belgium,
France,
Germany,
Netherlands,
Hungary,
Kingdom of the Serbs, Croats and Slovenes.

Following the wise precedent established by the interchange in Germany, the national health authorities concerned have agreed to prepare short descriptions of the areas and institutions to

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[1] Brazil,
Czechoslovakia,
England,
France,
Germany (2),
Netherlands,
Hungary,
Iceland,
Irish Free State (2),
Kenya Colony,
Northern Ireland,
Norway,
Scotland,
Kingdom of the Serbs, Croats and Slovenes,
Sweden,
Switzerland (2 alternatively),
United States of America.

be visited and summaries of the lectures to be delivered, so that the participants may have the opportunity of acquainting themselves beforehand with the main problems and methods of solution adopted in the different countries.

In every country visited the participants will study the governmental machinery designed to provide public health protection for rural districts. This study will not be restricted to public health agencies properly so called, but will include all branches of government which may have an influence on rural public health, such as public welfare agencies and agricultural schools. In addition, reference will be made to private and semi-private agencies and organisations which exercise a favourable influence on rural life and health, such as co-operative associations, health insurance funds, building associations, societies having to do with water supplies, etc. On the other hand, particular attention will be paid to rural sanitation, including housing, town-planning as applied to villages, village and individual water supplies, collective and private methods of sewage disposal, and protection of milk supplies.

Through the kindness of the national health authorities concerned, it has been possible to prepare a programme which will enable the participants to devote particular attention to aspects of rural health work which are peculiar to certain countries or which are specially well developed in those countries.

In France, a method of collecting vital statistics in rural districts which has given exceptionally favourable results will be studied in the Seine-Inférieure, while collective water supplies, housing and model villages will receive particular attention in the Aisne. At the suggestion of Professor Léon BERNARD, the participants will be shown the system used in France to ensure the development and safety of rural water supplies.

Belgium presents a favourable field for studying the influence of co-operative associations on the health of the rural population, and, through the kindness of M. VELGHE, this and many other features of rural hygiene will be shown in detail to the participants.

Dr. JITTA has arranged a programme in the Netherlands which demonstrates the provincial system of water supplies, whereby practically all the villages in a province receive safe supplies of water from one source. In addition, special attention will be paid to the work of a semi-official health agency, which provides medical, nursing, ambulance and health services to the rural population.

Dr. HAMEL and his colleagues in the Reich and certain German States have taken great pains to ensure that the participants shall see typical rural health work in three or four German States, notably Saxony, Prussia, Schleswig-Holstein and perhaps Bavaria. The visit to Germany will enable the participants to take note of the work of rural health insurance organisations, which are particularly well developed in Germany.

Dr. STAMPAR plans to show the participants representative work in three or four markedly different rural areas of his country. In Dalmatia, attention will be given to anti-malaria measures, particularly the co-operation of villages in the construction of cisterns for water supply. Public health institutes will be visited, and the participants will visit the areas and inspect the work shown to members of the Health Committee after the opening of the new Public Health School at Zagreb.

Medical officers of health or sanitary engineers dealing with the administration of important rural districts from the following countries have been invited to attend:

Brazil,	Germany,	Portugal,
Bulgaria,	Greece,	Roumania,
Colombia,	Guatemala,	Kingdom of the Serbs,
Czechoslovakia,	Hungary,	Croats and Slovenes,
Denmark,	Italy,	Spain,
Estonia,	Panama,	U.S.S.R.
France,	Paraguay,	

A member of the Health Section will accompany the interchange throughout, and the participants will include experienced sanitary engineers and medical officers, who will act as leaders. A general report will be submitted to the Health Committee on the rural health problems presented during the interchange, and, if necessary, recommendations for further studies by the Committee will be included.

5. *Interchange in Italy.* — This interchange will be organised along the lines of the recent interchange in Germany. The participants will assemble in Rome, where the first period will be devoted to studies of the central health administration and of the numerous health and welfare institutions and organisations located there. Advantage will also be taken of the stay in Rome to see public health work and institutions of interest in the neighbouring districts. During the second period the participants will study particular subjects in groups. Thus, in one area, particular attention will be paid to the prevention of tuberculosis, in another housing and town-planning will be studied, in a third urban sanitation will be the subject of enquiry, while in a fourth the Italian campaign against malaria will be considered. The programme will be so arranged as to give each group as complete a picture as possible of the public health services in Italy, and to this end carefully prepared descriptions of the work and areas to be seen will be distributed to the participants beforehand. Following the example of the German interchange, it is planned to hold

a final conference in Italy, to which a number of the Italian health authorities will be invited, and the usual conference will be held in Geneva.

The participation of public health officers from the following administrations has been invited:

Argentine,	France,	Netherlands,
Austria,	Germany (2),	Portugal,
Belgium,	Great Britain,	Spain,
Brazil,	Irish Free State,	Switzerland,
British India,	Japan,	United States of America.
Canada,		

6. *Individual Missions.* — In accordance with the usual practice, a number of individual missions have been granted for the study of special subjects. Thus, a German public health officer has been enabled to study, in London, hospital facilities, school hygiene, public welfare work, anti-venereal clinics and infant welfare in crowded districts. A professor of physical education has visited special centres and schools dealing with that subject in a number of countries, in order to study the methods employed and to give an account of his study as a basis for the report called for by a resolution of the Health Committee. A malariologist will attend the course on bacteriology given by Professor CALMETTE at the Pasteur Institute, and a Japanese public health officer is now in Europe to study the schools of physical education and the methods used in different countries to apply physical education to elementary school children.

C. COMMISSIONS.

1. Joint Commission of Experts for the Study of the Relationship between Public Health Services and Health Insurance Organisations.

This Commission, constituted on a recommendation of the ninth session of the Health Committee, is composed of six experts selected by the Governing Body of the International Labour Office, to represent sickness insurance organisations, and six experts selected by the Health Committee to represent the public health services.

The Committee will remember that the Joint Commission met on April 11th and 12th, 1927, at Geneva and prepared a report (document C.H.590) in which it recommends:

1. That, in the interests of preventive medicine, measures should be taken with a view to further co-operation and co-ordination between public health services and social insurance.
2. That appropriate surveys of certain aspects of both services should be carried out in selected countries.
3. That the following questions should be studied:

   (*a*) Education of the insured in hygiene.
   (*b*) Protection of maternity, infancy and the child of pre-school age.
   (*c*) Prevention of tuberculosis.
   (*d*) Prevention of venereal diseases.
   (*e*) Protection of the child of school age.

During the session it was decided that the surveys should also cover private organisations. Further, the term " preventive medicine " was defined in a wide sense by Sir George NEWMAN, the Chairman of the Commission (document C.H.584).

Since that session, the Secretariat has been occupied, on the one hand, in collecting and analysing the information relating to these questions and, on the other, in organising the surveys (documents C.H./11th session/Minutes, and C.H.682).

It is at present analysing a large amount of information. The first results of this analysis reveal the complexity of the problems submitted to the Commission.

Owing to this complexity, it was decided to confine the Commission's work in 1928 to the examination of two questions:

1. The prevention of tuberculosis.
2. The protection of maternity, infancy and the child of pre-school age.

Local studies are now being carried out.

General studies of the solutions adopted by the various organisations concerned with the prevention of disease have been begun.

A comprehensive report on *German sickness insurance from the point of view of social hygiene*, now being printed, represents the first stage in this series of studies. This most interesting and

exhaustive work, which has been edited by Dr. GROTJAHN, Professor of Social Hygiene at the University of Berlin, and Dr. Franz GOLDMANN, a member of the principal Health Office of the Municipality of Berlin, is being published in English, French and German by the International Labour Office.

Dr. MCLEARY, of the British Ministry of Health, has prepared a similar, though shorter, report for England, which has been distributed to members of the Joint Commission.

The information so far obtained shows the importance of the psychological factor. It was chiefly in view of the part played by this factor in the relations between the public health services and sickness insurance institutions that the Secretariat decided to study a scheme of interchanges for the medical officers attached to sick funds. The purpose of the scheme, which is at present under consideration, is to give these medical officers an opportunity of becoming acquainted with the methods of health administration and of coming into contact with the officials of the public health services. Local studies are now being made.

Germany. — It will be remembered that Dr. HAMEL, Chairman of the Sub-Commission on Tuberculosis, by arrangement with Dr. GRIESER, initiated enquiries at Cologne, Dresden and Munich into tuberculosis preventive measures. Two rural districts (Breslau and Düsseldorf) have now been added to these three urban districts. The results of the enquiries, revised by Dr. Hamel and Dr. Grieser, are to be embodied in a single report.

Austria. — At Vienna, Dr. FORAMITTI, by arrangement with the chief medical officer of the principal workers' fund, started and has now concluded an enquiry into measures for the prevention of tuberculosis. The report is being drawn up and certain parts have already been translated.

Two rural districts in the neighbourhood have now been added to the urban district of Vienna. Enquiries are at present being carried out there.

Belgium. — M. VELGHE and M. JAUNIAUX (a member of the Sub-Commission on Tuberculosis) selected two districts: the urban district of Charleroi and the rural district corresponding to the *arrondissement* of Antwerp. Enquiries are being carried out there with the help of Dr. TIMBAL.

All these enquiries are conducted on the basis of a questionnaire drawn up by the Secretariat after consultation with the members of the Sub-Commission on Tuberculosis.

It also seemed advisable to compare and contrast the different *national anti-tuberculosis programmes.*

The persons best qualified for the purpose in each country are drawing up a comprehensive report on the organisation of anti-tuberculosis measures. The national programmes adopted in Austria, Belgium, Czechoslovakia, Denmark, England, France, Germany, Italy, Poland and the United States can thus be submitted to the Commission after being analysed in detail, so as to bring out points of resemblance and fundamental differences.

The enquiries by the Sub-Commission set up to report on the protection of maternity, infancy and the child of pre-school age are summed up in very important conclusions submitted by M. WINTER.

M. WINTER's report has been distributed to members of the Commission and copies will be sent to any members of the Health Committee who may wish to have them.

In the case of the other enquiries, information is still being collected and in some instances these enquiries are closely connected with other work of the Section. This applies, for example, to the enquiries on the protection of the child of school age and the prevention of syphilis (enquiry into the incidence of syphilis in different countries).

Attention should be directed to the growth of legislative and administrative work in different countries with a view to co-ordinating efforts and thus increasing the efficacy of preventive medicine.

A *Czechoslovak* National Commission was formed to put into force the recommendations passed by the Joint Commission.

In *Germany* instructions (Richtlinien) were recently published by the Ministry of Labour regulating co-operation and co-ordination between the Public Health Service, social insurance institutions and private organisations.

In *Austria* the revision of the legislation concerning social insurance, under which invalidity and sickness insurance are more closely co-ordinated, has had the effect of increasing the importance of the preventive aspects of sickness insurance, as may be seen from Dr. FORAMITTI's report.

In *Belgium* a National Anti-Tuberculosis Committee has been set up to co-ordinate preventive measures.

In *France* the law concerning compulsory social insurance has been passed both by the Senate and by the Chamber of Deputies.

In *Italy* a law for compulsory insurance against tuberculosis has just been passed.

Information on the laws and administrative work of different countries in this matter is at the disposal of members of the Committee.

2. Opium Commission.

The report of the Chairman of the Commission constitutes a special item on the Committee's agenda. It remains for me to communicate to the Committee the replies received from the

Governments on the subject of Articles 8 and 10 of the Opium Convention and the measures taken by the Secretariat to give effect to the Council's decision adopted in pursuance of the Committee's recommendation concerning eucodal and dicodide.

Application of Article 10.

1. In pursuance of the resolution adopted by the Council at its forty-eighth session, the Secretary-General sent the following letter, dated January 27th, 1928, to the Governments of the States signatory to the Opium Convention of February 1925:

> " Sir,
>
> " I have the honour to inform you that the Council of the League of Nations adopted, on December 7th, 1927, during its forty-eighth session, the following resolution concerning the application of Article 10 of the Opium Convention of February 1925:
>
> > " ' The Council,
> >
> > " ' Having taken note of the resolution adopted by the Health Committee at its eleventh session to the effect that *eucodal* and *dicodide* are narcotics capable of producing harmful results similar to those specified in the Convention and should consequently be subject to its provisions;
> >
> > " ' Decides to request the Secretary-General to forward this recommendation to the States signatory to the Convention in accordance with the provisions of Article 10 of the Convention.'
>
> " In accordance with the terms of Article 10 of the above-mentioned Convention, I should be glad to know if your Government is willing, for their part, to agree to *eucodal* and *dicodide* being subject to the provisions of that Convention. "

So far, the following countries have replied in the affirmative:

Portugal (letter of February 9th, 1928) (*vide* Appendix I). — I would direct the attention of members of the Health Committee to the last paragraph of the letter of the Portuguese Government stating that the latter, by Decree Law No. 13,444 of April 2nd, 1927, has included *eucodal* and *eucodide* under the terms of the Convention. This is obviously a mistake, as no such substance as *eucodide* exists, the formula mentioned being that of dicodide.

Sudan (letter of February 15th, 1928).

Latvia (letter of March 1st, 1928). — " As the formalities required for the application of the Convention to eucodal and dicodide cannot be complied with until after ratification of the Convention by the Saeïma, the Latvian Government proposes to notify the Secretariat of the League of Nations in due course of its formal acceptance of the above-mentioned recommendation.

Austria (letter of March 3rd, 1928).

Netherlands (letter of March 12th, 1928). — " As regards the Netherlands overseas territories, the question is still under consideration."

Belgium (letter of March 13th, 1928).

Switzerland (letter of March 13th, 1928).

Luxemburg (letter of March 14th, 1928).

Bulgaria (letter of March 19th, 1928.)

Germany (letter of April 10th, 1928).

India (letter of April 17th, 1928).

Poland (letter of April 18th, 1928).

Great Britain (letter of May 5th, 1928).

Czechoslovakia (letter of May 12th, 1928).

Spain has simply acknowledged receipt (letter of February 3rd, 1928).

On the other hand, *Hungary* (*vide* Appendix II) considers that eucodal and dicodide should not come under the provisions of the Convention.

2. In accordance with the resolution adopted by the Health Committee at its eleventh session, the Permanent Committee of the Office international d'hygiène publique was asked to examine the injurious effects of dilaudide, on the one hand, and of benzoylmorphine and other extracts of morphine, on the other, as narcotics liable to cause toxicomania, and to state whether it was of opinion that those products, or certain of them, should also come under the International Opium Convention. The Permanent Committee of the Office appointed a Commission of experts, which is to meet in Paris on April 17th to study this question.

Application of Article 8.

Since the last session of the Health Committee, the Siamese Government has sent to the Secretary-General for the information of that Committee a letter dated September 15th, 1927, to which were attached two lists of habit-forming drugs which come within the provisions of the special Siamese laws.

3. Malaria Commission.

The next meeting of the Malaria Commission is convened for June 25th, 1928. The meeting will discuss, first, the report of Colonel James and Professor Swellengrebel on their visit to the United States of America and, secondly, the conclusions reached in the second general report of the Malaria Commission (document C.H./Malaria/73).

In order to obtain the American view on the report of Colonel James and Professor Swellengrebel, invitations to attend the Conference have been sent to a number of prominent American malariologists, three of whom hope to be at the meeting.

Malaria Courses. — As in previous years, arrangements have been made for special courses on Malaria to be held in London, Hamburg and Paris. In addition, through the courtesy of Professor Ascoli, a similar course will be held at the Superior School of Malariology in Rome. The theoretical courses will be followed by practical work in Spain, Italy and the Kingdom of the Serbs, Croats and Slovenes. In the case of Italy, practical courses will be arranged at the Experimental Anti-malaria Station at Rome and the provincial stations and at the Superior School of Malariology, in co-operation with the Experimental Station.

Fourteen scholarships to these courses will be awarded by the Health Organisation, in addition to those provided by the International Health Division of the Rockefeller Foundation. The allot-ment of the scholarships of the Health Organisation is as follows: Albania, 1; Belgium, 1; Bulgaria, 1; France, 1; French Colonies, 1; Greece, 1; Russia, 2; Kingdom of the Serbs, Croats and Slovenes, 1; Dominica, 1; unallotted, 4.

Indian Tour. — Colonel S. R. Christophers, whose assistance to the Malaria Commission in India would be invaluable, has unfortunately been ordered to leave India for a year on medical grounds. Under these circumstances, the Chairman of the Health Committee, in consultation with Colonel James and Colonel Graham, reached the conclusion that the Indian tour should be postponed until October 1929.

Secondary Alkaloids. — There is at present no progress to report.

With a view to further practical investigations, however, arrangements have been made with Professor Van Hoof for a supply of cinchona bark to be sent from the Belgian Congo, and it is hoped shortly to receive samples of barks from India and French Indo-China through the Singapore Bureau.

Malaria in Bulgaria. — A representative of the International Health Division of the Rocke-feller Foundation is now resident in Sofia and anti-malaria work began in the Petritch district in March 1928 with a preliminary survey. This work is being carried out by the National Public Health Authorities, who are fortunate in having obtained the assistance of the Rockefeller Foundation.

The Bulgarian Government is making serious efforts to deal with health conditions generally, and especially with malaria. A full and comprehensive report on the whole situation has been received from Dr. Markoff, Chief Inspector of Malaria, in which the Government's scheme of anti-malaria work is explained.

4. Expert Committee on Sleeping-Sickness.

The Council approved the resolution adopted by the Health Committee at its eleventh session, and the Secretary-General sent a letter to all the Governments which had participated in the first International Sleeping-Sickness Conference, held in London in 1925, asking if they would be willing to send technical delegates to a second Conference, to study the final report of the Commission of Enquiry, and the observations of the Committee of Experts thereon. These Governments are the British, Belgian, Spanish, French, Italian and Portuguese. They were asked, at the same time, to make suggestions as to the date and place of the meeting of this Conference, should the proposal to hold a Conference meet with their approval.

Replies, copies of which have been sent to the Governments interested and to the members of the Committee, have been received from the Governments of Great Britain, France, Belgium and Portugal.

The Belgian Government, in a letter dated January 30th, 1928, suggested Paris as the most suitable place of meeting, and would like the Conference to be held at the end of September. The British Government has expressed the desire that the Conference be held in London between July 9th and August 4th, 1928 (letter dated February 1st, 1928). The French Government suggests the end of October as a suitable date, and Paris as the place of meeting (letter dated February 8th, 1928). The Government of Portugal would also like the Conference to be held in Paris, during the month of September (letter dated March 7th, 1928).

A meeting of the Expert Committee on Sleeping-Sickness in Equatorial Africa was held in London on December 15th and 16th, 1927, and was attended by Dr. Andrew BALFOUR, Dr. BAGSHAWE, and Professor VAN CAMPENHOUT. Unfortunately, Professor Gustave MARTIN was unable to attend. The final report of the Commission of Enquiry was considered.

The report of that meeting is at the disposal of the members of the Health Committee.

The Committee recommends, *inter alia*, that the general recommendations for the control of sleeping-sickness in Equatorial African Dependencies made by members of the Commission be submitted to the International Conference referred to above, with special regard to their applicability under different local conditions. The Committee considers that the work successfully begun by the Commission should be continued in the different national laboratories in sleeping-sickness areas of Africa, and that the Health Organisation of the League might render most useful service by keeping the workers in the various national laboratories in touch with one another by such means as may be found most practicable.

One of the most useful methods of establishing such contact would be to organise individual interchanges between workers in various national laboratories. In view of the remarkable differences that are characteristic of sleeping-sickness in different localities, such interchanges might do much to promote research.

The Health Committee will doubtless wish to consider what further it can do to foster and encourage research and investigation into problems connected with sleeping-sickness, of much interest and importance to several administrations. A suggestion that might be considered is the establishment of a small *ad hoc* Expert Committee, whose duty it would be to receive from the several institutes and centres of research engaged in this study, accounts of research work carried out in these institutes, say once a year. This Committee might likewise take note of all publications regarding sleeping-sickness of sufficient interest and importance. Once a year the Committee might circulate collected papers, with a short general review of the progress made in sleeping-sickness research and prevention, to the institutes referred to, as well as to the administrations concerned.

To facilitate the work of such a Committee, it might be empowered to recommend to the Health Committee, say once a year, the award to one or other of these institutes of a *bourse individuelle*, which would enable a member of the staff of the institute selected to visit some part of the world where work is being carried on of special interest to the laboratory or institute in question.

5. Commission on Infant Mortality.

The enquiry in Austria was concluded on December 31st, 1927, and that in Great Britain during January. The enquiries in other countries are still proceeding and the experts will meet in London from July 2nd to 4th, 1928, to examine results, discuss a form for grouping the data on a uniform plan, establish the form of the final report and examine the proposal of Professor ROTT, the German member, concerning the continuation of the enquiry on different lines for a second period of twelve months.

The preliminary enquiries in the countries of Latin America are now concluded and the enquiry properly so called will be carried out in certain districts in *Brazil*, *Uruguay*, the *Argentine Republic* and *Chile* lasting over a period of twelve months and beginning, for the different countries, on the following dates:

Brazil:	February 1st,
Uruguay:	March 1st,
Argentine:	March 1st,
Chile:	April 1st.

Professor O. OLSEN, whose services were placed at the disposal of the Latin-American experts for co-ordinating the programme of studies, will be back early in April and will submit a note to the Committee on the results of his mission.

6. Permanent Commission on Standardisation of Biological and Serological Products.

(*a*) The Permanent Commission on Standardisation and the experts engaged in the various studies have been invited to meet at Frankfort-on-Main, at Professor KOLLE's Institute for Experimental Therapy, from April 25th to 28th. The programme of studies and discussions includes an examination of the following questions:

1. Final agreement as to the standardisation of anti-dysentery serum.
2. Adoption of a standard for anti-tetanic serum.
3. Discussion on the results of studies with a view to the standardisation of an anti-scarlet-fever serum.
4. Discussions relating to the standardisation of tuberculin.

5. Discussions on the standardisation of standard sera for blood groups.
6. Communications from Professor DALE concerning the standardisation of biological products.
7. Standardisation of anti-anthrax serum.
8. Proposals and recommendations of the International Conference on Rabies.

The President of the Committee will submit a report to his colleagues directly after the Frankfort meeting, and a special place has been reserved on the Committee's agenda for the examination of this report.

(*b*) In accordance with the decision passed by the Committee at its October session, a new laboratory Conference has been convened at Copenhagen at the State Serum Institute from May 18th to June 1st. The following Institutes have been invited to compare the current method for the Bordet-Wassermann reaction with the various flocculation tests, more particularly the Sigma method as modified by the Copenhagen Serological Institute, and the Kahn method:

Argentine:	Public Health Institute, Buenos Aires. (Dr. SORDELLI.)
Belgium:	Institut Pasteur, Brussels. (Dr. RENAUX.)
France:	Institut prophylactique, Paris. (Dr. VERNES.)
Germany:	" Robert Koch " Institute, Berlin. (Professor OTTO and Dr. BLUMENTHAL.) Reichsgesundheitsamt (Public Health Office of the Reich), Berlin. (Professor DOLD.) Serologisches Institut, Hagen (Westphalia). (Professor MEINICKE.) Institut für experimentelle Krebsforschung (Institute for Experimental Cancer Research), Heidelberg. (Professor SACHS.)
Great Britain:	Ministry of Health, London. (Dr. HARRISSON and Dr. WYLER.)
Japan:	Government Institute for Infectious Diseases, Tokio. (Professor NAGAYAO.)
Poland:	State Institute for Public Health, Warsaw. (Dr. SIERAKOWSKY.)
Kingdom of the Serbs, Croats and Slovenes:	Public Health Institute, Belgrade. (Dr. PAVLOVITCH.)
Straits Settlements:	College of Medicine, Singapore. (Professor A. Neave KINGSBURY.)
United States of America:	Graduate School of Medicine of the University of Pennsylvania, Philadelphia. (Dr. J. A. KOLMER.) State Hygienic Laboratory, Michigan. (Dr. KAHN.)
U.S.S.R.:	State Institute for Experimental Medicine, Leningrad. (Dr. ZABOLOTNY.)
Uruguay:	Syphilis Laboratory, Montevideo. (Dr. SCALTRITTI.)

D. ACTION TAKEN ON THE RESOLUTIONS OF THE ELEVENTH SESSION OF THE HEALTH COMMITTEE.

1. WELFARE OF THE BLIND.

In accordance with the resolution on the welfare of the blind adopted by the Health Committee at its eleventh session, a circular letter dated January 27th, 1928, accompanied by a detailed

questionnaire relating to the measures in force for the welfare of the blind, was addressed to the following countries:

Argentine,
Australia,
Austria,
Belgium,
Bolivia,
Brazil,
Bulgaria,
Canada,
Chile,
China,
Colombia,
Costa Rica,
Cuba,
Czechoslovakia,
Denmark,
Ecuador,
Egypt,
Estonia,
Finland,
France,
Germany,
Greece,
Guatemala,
Haiti,
Honduras,
Hungary,
India,
Irish Free State,
Italy,
Japan,
Latvia,
Lithuania,
Luxemburg,
Netherlands,
New Zealand,
Nicaragua,
Norway,
Panama,
Paraguay,
Persia,
Peru,
Poland,
Portugal,
Roumania,
Salvador,
Kingdom of the Serbs, Croats and Slovenes,
Siam,
South Africa,
Spain,
Sweden,
Switzerland,
Turkey,
United States of America,
Uruguay,
U.S.S.R.,
Venezuela.

Up to the present, replies have been received from the following countries:

Australia,
Canada,
Costa Rica,
Germany,
Greece,
Hungary,
Ireland,
Latvia,
Luxemburg,
Poland,
Siam,
Sweden,

who have sent the information requested.

The following countries have acknowledged receipt of the letter and promised to supply the information asked for:

Denmark,
Japan,
Norway,
Spain,
Union of South Africa,
United States of America,
Uruguay,
U.S.S.R.

The International Labour Office informed us that the social aspect of this question was within its competence, and suggested that it might perhaps help the Health Section in studying it. We replied that we should be glad of their assistance in examining the information forwarded by Governments and in preparing the note to the Health Committee.

2. Study on Deratisation.

Deratisation by means of Hydrocyanic Acid. — At its eleventh session, the Health Committee asked the Medical Director to examine the possibilities of carrying out a study of the methods of deratisation by means of hydrocyanic acid.

The experience of the last few years has shown that, all things considered, hydrocyanic acid, in one form or another, is the most satisfactory fumigant yet available for the destruction of rats on board ship. For this reason the present enquiry is to take no account of other forms of fumigation.

One of the most important points to determine relates to the possibility of ensuring the destruction of rats on board a ship in freight by methods of fumigation hitherto employed. If such a procedure be applicable, the limits of its applicability call for study, with special regard to the nature of the cargo and such like considerations.

There is no need in a note such as this to describe the various methods now in use, for all of which advantages are claimed. Hydrocyanic gas is used either alone or in conjunction with an irritant gas, affecting the respiratory passages or the conjunctiva, to serve as a danger signal. The methods may be divided into three classes, involving:

1. The use of liquid hydrocyanic acid gas;

2. The generation of gas by the action of an acid on a cyanide salt; and

3. The use of such preparations as " Cyklon B ", which consists of silica impregnated with hydrocyanic acid, with the addition of an irritant gas.

It is evident that an enquiry, intended to assess the respective advantages and disadvantages of the various methods, and the limits of their applicability, might be carried out in one of two ways. The experts entrusted with the task might study the different methods in one selected port, testing the various methods, one against the other, in one and the same ship obtained for this purpose, both empty and in freight. Such a " laboratory " study would be prohibitively

costly, and might not yield incontrovertible results capable of general application. A more feasible plan would be to arrange for the selected experts to visit five or six ports in which different methods are being carried out by staffs experienced in the processes, and subsequently to compare the results achieved by each. For this purpose it is suggested visits should be paid to New York, Liverpool, Rotterdam, Barcelona and Genoa. In one or other of these ports all methods of cyanide fumigation for which special advantages are claimed could be studied. These ports might be visited in the order named, the experts holding a final meeting in Geneva, where their report could be prepared.

The expert Committee should be restricted in number. Its composition might be as follows: Dr. JITTA (Chairman), Dr. RAYNAUD, and an expert, with special experience of ship fumigation, from each of the Public Health Services of Germany, Great Britain, Italy, Spain and the United States of America, one of whom should be an expert chemist.

The comprehensive study of the merits and demerits of different methods of cyanide fumigation will obviously comprise the question of ventilation after fumigation and other procedure necessary to eliminate attendant risks. A more general question that might be referred to the Committee relates to the conditions which render it advisable to recommend fumigation of ships, and the conditions, if any, which render such fumigation essential.

The duration of the enquiry would probably be two months. It is hoped that it will be possible to defray the cost out of the current budget.

3. SURVEY OF THE HEALTH CONDITIONS OF CERTAIN ISLANDS OF THE PACIFIC.

The Health Committee at its eleventh session requested the Medical Director to study the possibility of making arrangements for carrying out a survey of the health conditions of certain Islands of the Pacific.

Replies are awaited to communications which have been addressed to the Ministry of Colonies in Paris and to the Colonial Office in London with regard to this matter.

It is hoped that these replies will be received in time to enable definite proposals to be placed before the Health Committee at its twelfth session.

4. STUDY OF THE INTERNATIONAL LIST OF CAUSES OF DEATH AND MORBIDITY STATISTICS.

1. *Fourth Revision of the International List of Causes of Death.*

It will be recalled that, in accordance with a resolution adopted by the Health Committee and approved by the Council, a copy of the report of the Commission of Expert Statisticians, which met in Geneva on March 14th, 15th, 16th and 17th, 1927, was sent by the Secretary-General to all Governments, with the request that it be referred to the departments of the Government concerned. Letters were also addressed by the Medical Director to the chiefs of statistical bureaux and others specially concerned asking for their co-operation and directing attention especially to the resolutions regarding:

1. The International List of Causes of Death;
2. International uniformity of classification of still-births by causes;
3. Standard death certificate; classification of joint causes of death, and tabulation of deaths by age and by sex;
4. Preparation of a nomenclature of diseases.

(*a*) The Governments of *Argentine, Canada, Colombia, Cuba, Guatemala, Honduras, Mexico, San Salvador* and *Uruguay* have informed the League of Nations that they have referred the resolutions of the Commission of Expert Statisticians to the competent national authorities for study.

The Government of *Denmark* referred to the work of the special Committee that had studied the problem of the introduction of a uniform list of causes of death in the Scandinavian countries and has promised to keep the League informed regarding any further developments.

In *Finland*, the resolutions have been referred to the newly reorganised Department of Demographic Statistics.

The Government of *India* has taken note of the resolutions; it has no observation to make, pending examination of the views by technical authorities in Great Britain.

In the *Netherlands*, the question of uniform morbidity statistics is being studied by a special statistical commission of the " Gezondheidsrad ".

The Director of Health of *Spain* has stated that the resolutions of the Commission are being studied by the statistical offices, whose observations will be forwarded in due course.

(*b*) In *Austria, China, Czechoslovakia, Germany, Greece, Hungary* and *Poland*, special national committees of expert statisticians have been formed to co-operate with the Commission of Expert Statisticians of the Health Organisation.

Observations on the resolutions of the Commission of Expert Statisticians have been received from competent authorities of the following countries: *Austria, Great Britain, Czechoslovakia, Estonia, Irish Free State, Roumania, Switzerland, Australia, New Zealand,* the *Union of South Africa* and the *United States of America*. The observations, some of which are very full, have been communicated to the Expert Committee of Statisticians and are available for the information of the Members of the Health Committee.

(*c*) As regards *France*, the Minister for Foreign Affairs, in a letter dated December 8th, 1927, addressed to the Secretary-General of the League of Nations, states the intention of his Government to convoke an International Conference in Paris in 1929 to revise the International List of Causes of Death, following the precedents of the previous Conferences of 1900, 1909 and 1920, and in accordance with the recommendations of the last-named Conference.

The French Government, as on previous occasions, had entrusted the preparatory work to the International Institute of Statistics (as the mandatory of the French Government) and with the framing of draft lists for submission to the Conference. A special Committee had been formed, whose recommendations have already been framed for submission to the plenary meeting of the Institute at Cairo on December 28th, 1927. Having been approved (as they have now been), they will be forwarded to the French Government, which will in turn communicate them to the other Governments with a request for observations. These observations having been received, an opportunity will arise for the co-operation of the Committee with the Commission of the Health Organisation of the League of Nations on the final preparation of the document which will serve as a basis of the work of the Conference. The French Government considers that it would be highly advantageous if the League of Nations were to nominate a number of delegates of its own selection to co-operate with the representatives of the International Institute of Statistics with a view to co-ordinating the proposals emanating from both organisations and the observations or criticism which those proposals may have elicited.

After the session of the Cairo Congress, the President of the International Institute of Statistics sent to the Health Section a copy of the *Vœux et Avis concernant les statistiques démographiques, économiques et sociales, adoptés par l'Institut au cours de sa dix-septième session au Caire*, 1927-28, with a circular letter which figures in Appendix III. Special attention is drawn to the conclusions of the studies of a special commission which was at work for a period of over two years.

The Health Committee will doubtless recommend to the Council the adoption of the suggestion of the French Government and welcome the opportunity of co-operation with the International Institute of Statistics in the manner indicated. It will be desirable in any event to convene a second meeting of the expert statisticians at an early date. At this meeting the observations of the various Governments that have already been received, or which may hereafter be addressed to us, should be considered, and, if the Committee were to approve our suggestion, certain of the expert members would be nominated to co-operate with delegates of the International Institute of Statistics, who will jointly be responsible for the preparation of the material for the International Conference of 1929.

2. *Morbidity Statistics.*

In accordance with the fourth resolution of the Commission of Expert Statisticians, a large amount of information concerning morbidity statistics has been collected. This information consists of lists of pathological conditions, nomenclatures of diseases used by sickness insurance funds, hospitals, dispensaries, army, navy and air forces, post, telegraph, railway administrations, etc., in many countries. Special studies on the actual state of morbidity statistics are being carried out in Austria, Czechoslovakia, Italy and Switzerland.

In many countries (Austria, China, Czechoslovakia, Germany, Greece, Hungary, Poland) National Committees have been set up to study morbidity statistics. These committees have promised to communicate their findings to the Health Committee, together with all relevant documents. Certain of these reports we hope to receive in the near future, when they will be analysed and correlated.

Special interest is being devoted to the study of morbidity statistics in sickness insurance funds.

In the Rhineland, an analytical study of morbidity statistics of sickness insurance funds is being made by Dr. TELEKY, Director of the West German Social Hygiene Institute. This material comprises the statistical data, extending over the period 1923-27, of about fifty sickness insurance funds in the Rhineland which have voluntarily agreed to the use of a uniform system of presenting their data. It is hoped that the result of this study will give indications of the value of such statistics to preventive medicine.

Another exhaustive analytical study is being undertaken by Dr. PRYLL and Dr. ROESLE, in Berlin. The material available for this study, which covers the period 1926-27, comprises data on morbidity statistics of about 800,000 insured members of the Union of Local Sickness Insurance Funds of Berlin, classified according to the detailed International List of Diseases.

A comparative analytical study of the frequency of the more common causes of morbidity as experienced by local sickness funds of Leipzig and environs, general local sickness funds in Berlin,

sickness insurance funds in Hungary, and the Government of Moscow, is being undertaken by Dr. Roesle. This study may enable a " list of diseases " to be established best suited for the purpose of sickness insurance funds.

The large amount of data on morbidity statistics now available in sickness insurance organisations in many countries and the increasing attention which public health and social insurance authorities are paying to the problem of morbidity statistics suggest that a special international course for the study of sickness insurance morbidity statistics might be of great practical assistance to many countries.

E. MISCELLANEOUS.

1. Co-operation with the Greek Authorities and the Commission for thi Settlement of Greek Refugees.

The Seventeenth Quarterly Report of the Greek Refugee Settlement Commission refers to the terrible ravages caused by tuberculosis among the refugees in towns. Hitherto it has not been possible to take any measures to deal with this difficult problem. Extreme overcrowding in certain refugee quarters is considered to be the most important factor in this unfortunate state of affairs.

The Financial Committee on the Settlement of Greek Refugees, after considering the report, expressed itself as follows:

> " The Committee is impressed by the remarks made in the Settlement Commission's Report, paragraph IV, page 9, regarding the prevalence of tuberculosis among the refugees. It suggests that contact might be established between the Refugee Settlement Commission and the Health Organisation of the League of Nations with a view to the latter rendering assistance to the public health authorities of Greece and to the Settlement Commission in dealing with this situation. "

This report of the Financial Committee was approved and adopted by the Council on March 5th, 1928. A letter has been addressed to the Greek Government, asking whether it would welcome the assistance of the Health Organisation of the League of Nations in an attempt to deal with this problem, and the President of the Greek Refugee Commission has been informed of the action taken. Should an affirmative reply be received, it is hoped that the Director of the Public Health Service of Greece will be present at the meeting of the Health Committee, at which this question will be discussed.

2. Physical Education.

The Health Committee will recall that the study of physical education was proposed to the seventh ordinary session of the Assembly by the delegation of Czechoslovakia, and that the Committee adopted a resolution (document C.610.M.238.1926.III, page 111), requesting the Medical Director to prepare a report after consultation with the competent Czechoslovak authorities. The Czechoslovak and other authorities and experts have been consulted and a considerable amount of information is being collected, which will later on form the basis of a report.

During the eleventh session of the Committee, reference was made to the possibility of holding an interchange in 1928 devoted to the subject of physical education, and indeed the time appears opportune, for a small interchange of directors of schools, studying collectively the problems of physical education during successive visits to a number of these schools, would result in the collection of much valuable information and in the selection of problems ripe for international study and solution. Should budgetary provisions permit, this interchange could be held during the latter half of 1928.

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Appendix I.

LETTER FROM THE PORTUGUESE GOVERNMENT CONCERNING EUCODAL AND DICODIDE.

[*Translation.*] Lisbon, February 9th, 1928.

I have the honour to acknowledge receipt of your letter No. 12/1013/8041 of January 27th, informing me that the Council of the League of Nations adopted on December 7th, 1927, during its forty-eighth session, a resolution concerning the application of Article 10 of the Opium Convention of February 19th, 1925. Under the terms of this Convention, the Council, having taken note of the resolution adopted by the Health Committee at its eleventh session, to the effect that eucodal and dicodide (or eucodide?) are narcotics capable of producing harmful results similar to those of the products specified in the Opium Convention of February 19th, 1925, and should consequently be subject to its provisions, decided to request you to forward this recommendation to the States signatory to the Convention, in accordance with the provisions of Article 10 of the Convention.

I beg to inform you, in accordance with the terms of Article 10 of the Opium Convention of February 19th, 1925, that eucodal and eucodide, having been declared narcotic drugs by the Committee of Experts appointed by the Office international d'hygiène, and the Public Health Administration having stated that eucodal is beginning to be employed by drug addicts as a substitute for morphine, a practice which must be stopped, the Portuguese Government, under the terms of Article 1 of Decree Law No. 13443 of April 2nd, 1927, has declared eucodal ($C_{18}H_{22}NO_4$) and eucodide ($C_{18}H_{21}NO_3$) to be narcotic drugs, and has made the Convention applicable to both these drugs.

(Signed) E. VASCONCELLOS.
For the Minister.

Appendix II.

LETTER FROM THE HUNGARIAN GOVERNMENT CONCERNING EUDOCAL AND DICODIDE.

[*Translation.*] Geneva, March 5th, 1928.

With reference to your letter No. 12.1002/804, of January 27th, 1928, I have the honour to inform you that, in the opinion of my Government, eucodal and dicodide should not be regarded as drugs within the meaning of the Opium Convention, and consequently the provisions of the Convention should not be made applicable to them.

(Signed) HEVESY.
Resident Minister.

Appendix III.

LETTER FROM THE INTERNATIONAL INSTITUTE OF STATISTICS.

[*Translation.*] Paris, The Hague, March 1st, 1928.

In conformity with Article 1, paragraph 2, of the Statutes of the International Institute of Statistics, we have the honour to forward the resolutions adopted by the Institute at the session held in Cairo from December 29th, 1927, to January 5th, 1928, under the distinguished patronage of His Majesty the King of Egypt.

All these resolutions were studied with great care. They were prepared by special Commissions in the interval between the two sessions, and were then discussed at Cairo, first by the competent sections, and then by the General Assembly. We trust, therefore, that you may consider them deserving of attention, and that you will be good enough after examination to recommend their application to the Ministries or responsible persons concerned.

(Signed) H. W. METHORST,
Secretary-General.

(Signed) A. DELATOUR,
President of the International Institute of Statistics.

A.4.1928.X
(Extract).

ANNEX 6.

BUDGETARY ESTIMATES OF THE HEALTH ORGANISATION FOR 1929.

SCHEDULE O, TO CHAPTER III, ITEM 22 [1].

	1929 Estimates [2]		
	League contribution	Rockefeller contribution	Total
	Swiss francs	Swiss francs	Swiss francs
INTERNATIONAL HEALTH ORGANISATION	998,853	543,110	1,541,963
I. *Health Committee, Secretariat and General Work of the Organisation.*			
1. Sessions of the Health Committee	60,000		60,000
2. Salaries of the Health Section	354,853		354,853
3. Travelling and removal expenses of the Secretariat	58,000		58,000
4. General printing and documentation	16,000		16,000
5. Cables, telegrams and telephones	13,000		13,000
6. Miscellaneous petty expenses and unforeseen contingencies	2,000		2,000
II. *Intelligence, Technical and Research Work of the Organisation.*			
1. Technical Committees and Sub-Committees, missions, work of experts and collective and individual studies	250,000	123,327 [3]	373,327
2. Salaries of the temporary staff		231,784	231,784
3. Publications, printing and documentation	70,000	45,763	115,763
4. Cables and telegrams	5,000		5,000
5. Miscellaneous and unforeseen	5,000		5,000
6. Contribution to Singapore Bureau	15,000		15,000
III.			
Expenses in connection with a system of liaison between the various national health services	150,000	142,236	292,236
	998,853	543,110	1,541,963 [4]

[1] For the sake of greater clarity the internal arrangement of the budget of the Health Organisation for 1929 has been somewhat modified.

[2] Including expenditure to be met or met out of Rockefeller Foundation grants, estimates for 1928 amounted to 1,481,343 francs; for 1927 to 1,544,861 francs; and expenditure in 1927 to 1,485,984 francs.

[3] Subdivision of Rockefeller grants as between various sub-heads:

	Swiss francs	Swiss francs
Grant I:		
Salaries	116,894	
Interchanges	142,236	
		259,130
Grant II:		
Salaries	114,890	
Technical Committees, etc.	123,327	
Publications	45,763	
		283,980
Total		543,110

[4] *Summary of Appropriations in Aid.*

	1929	Estimates 1928	1927	Expenditure 1927
	Swiss francs	Swiss francs	Swiss francs	Swiss francs
Rockefeller Foundation grants	543,110	388,695	538,161	571,383 *
I. For Interchange of Public Health Personnel: $50,000	259,130	129,565	259,130	138,094 *
II. For Epidemiological Intelligence Service and study of demographic and public health statistics: $54,795	283,980	259,130	{ 170,196 [1] 108,855 [2]	433,289

* Apparent over-expenditure is due to the fact that during 1927 a further sum of $11,000 was granted by the Rockefeller Foundation for the interchange of Public Health personnel.

C.H.718.

ANNEX 7.

PERMANENT COMMISSION ON STANDARDISATION OF SERA, SEROLOGICAL REACTIONS AND BIOLOGICAL PRODUCTS.

REPORT BY THE PRESIDENT ON THE SESSION HELD AT FRANCKFORT-ON-MAIN FROM APRIL 25TH TO 28TH, 1928.

Submitted to the Committee on May 4th, 1928.

The members of the Committee will recall that Professor Kolle, Director of the Institute for Experimental Therapy at Frankfort, was kind enough to place his Institute at the disposal of the Commission for the 1928 session. This invitation was accepted, and the session was held last week from April 25th to 28th.

I need not tell you that the Commission was very well received and that every possible arrangement was made by the competent authorities of the Prussian Government, as well as by Professor Kolle and his colleagues, to facilitate our work.

It is hardly necessary for me to say that Dr. Hamel and his colleagues in the Reichsgesundheitsamt (Ministry of Public Health of the Reich) some of whom were present, did everything in their power to ensure the success of the session, and sent a special message of welcome by means of their representatives.

I am sure that the Committee will wish to express its appreciation to the authorities concerned and to Professor Kolle and Dr. Hamel for the most hospitable reception which was given to the members of the Commission.

The great interest that is taken in the work of this Commission in technical circles in Germany was evidenced by the presence of a number of prominent German workers in this field.

The agenda included a large number of subjects, and I am very happy to be able to inform the Health Committee that final agreement was reached concerning a majority of them.

At the same time, the Commission took account of the progress that has been made during recent years in regard to serological and biological work — progress which resulted in certain new proposals which I will place before you, and which also led to the amendment or suppression of certain conclusions which had been adopted in the past.

ANTI-DIPHTHERITIC SERUM.

In regard to anti-diphtheritic serum, the Commission noted that further comparison of the standard sera of London, Frankfort, Copenhagen, Paris and Washington had shown these to be identical in titre and it decided to study the possibility of utilising the flocculation method as a means of assaying the value of anti-diphtheritic serum and of diphtheritic antigen.

An interesting proposal made by Professor Louis Martin was adopted by the Commission in regard to active immunisation against diphtheria by means of anatoxin, and the Commission decided to study the value of the anatoxin in use as well as the method of vaccination employed.

ANTI-TETANIC SERUM.

The work which the Commission has carried on since October 1926 in regard to a standard serum and the international unit has led to the conclusion that the unit, as defined by the conference held in Geneva in 1926, is suitable for international use and may now be adopted definitely.

ANTI-DYSENTERIC SERUM.

The comparative studies on this subject which have been carried out by the Danish State Serum Institute and the participating laboratories have given concordant results, and the Commission now proposes to adopt as an international standard the standard serum prepared and distributed by the Copenhagen Institute.

SCARLET FEVER.

The Commission did not feel itself able to express an opinion on the ætiology of scarlet fever, but decided to adopt as a basis for study the standard serum prepared by the Federal Government of the United States. The members of the Committee will be pleased to learn that the Hygienic Laboratory at Washington is prepared to place at the disposal of the participating Institutes a sufficient quantity of the standard serum for the studies in question.

Anti-gangrenous Sera (*B. Welchii*).

Recent work has shown the interest which attaches to this subject, and the Commission decided, in view of the possibility of standardising the different sera, to institute comparisons of the standards in the countries concerned and to place this item on the agenda of the next conference.

Tuberculin.

Encouraging results have been obtained in this field, the comparison of the standards at the National Institute for Medical Research, London, and the Institute for Experimental Therapy, Frankfort, having shown these standards to be identical in potency. The Commission considers that this question has, for practical purposes, been solved, and there is every reason to hope that an international standard may be adopted at a subsequent session.

Blood Groups.

The Committee has already expressed a favourable opinion in regard to the proposal for an international nomenclature of blood groups. The members will be pleased to learn that this nomenclature has been generally accepted. The Commission considers that, in order to avoid confusion, the test sera should be given a special designation, which will not only use the ordinary name of the serum but will also give an indication of its quality.

The Commission has also decided that the standard sera in use in various countries should be compared and that further studies should be made in regard to the preparation, conservation and distribution of test sera, as well as to methods of determining blood groups.

The Health Committee will recall that the Danish State Serum Institute acts as the central laboratory of the Health Organisation of the League of Nations for the comparative study and distribution of preparations and standards.

Rabies.

The Commission considered certain results of the International Rabies Conference with a view to the possibility of standardising the material used in the treatment of rabies, and considered that the proposals made by Dr. Remlinger in this respect provided useful methods of giving effect to its resolutions.

* * *

Dr. Dale presided over a conference in which the standardisation of a whole series of therapeutic substances was discussed. Here also final agreement was reached in regard to a majority of the substances in question.

Salvarsan.

The resolutions of the Geneva Conference, 1925, were endorsed and a number of recommendations were added. It was decided that the standard samples for neo-salvarsan and sulpharsphenamine provided by Professor Kolle and Professor Voegtlin respectively are suitable for adoption as the bases for the international standards.

When a new preparation of neo-salvarsan is required, it will be tested in the first instance in the Frankfort Institute for Experimental Therapy, and later by the National Institute for Medical Research, London, which will act for this purpose, and for the distribution of the standard, as the central laboratory of the Health Organisation of the League of Nations. The Commission made a similar recommendation in regard to sulpharsphenamine, the standard for which will be prepared by Professor Voegtlin at Washington.

Recommendations were made in regard to methods of conserving the samples and carrying out the tests, and a suggestion of Professor Hata in regard to the use of animals infected with spirochætes instead of trypanosomes as an alternative was adopted.

Digitalis.

The members of the Health Committee have learned with regret of the death of Professor Magnus, whose co-operation was of so much value to the Permanent Standards Commission. When the material prepared and supplied by Professor Magnus has been nearly exhausted or has become deteriorated, it will be necessary to make arrangements for the renewal of the standard, and this task has been entrusted to the Pharmacological Laboratory of the University of Utrecht, The Netherland (Dr. Bijlsma).

As usual, the distribution of the standard will be undertaken by the National Institute for Medical Research, London, acting as the central laboratory of the Health Organisation of the League of Nations for this purpose.

The Commission adopted a certain number of recommendations in regard to methods of preparing and testing the standard and in regard to its use in the preparation of the drug for treatment.

Strophanthus.

The Commission recommended that a sample of ouabain should be prepared and kept as an international standard for the biological assay of strophanthus and its preparations, and requested Professor Tiffeneau, of the University of Paris, to be responsible for the preparation of the standard; here, again, the National Institute for Medical Research, London, acting as the central laboratory for the Health Organisation of the League of Nations, will make the necessary arrangements for distribution.

Scilla.

The Commission decided to study the possibility of preparing a stable standard from a suitable dried sample of the drug.

Pituitary Extract.

The international standard, as adopted during the conference held at Geneva in 1925, has given uniformly favourable results.

The Commission adopted detailed indications in regard to carrying out the various tests, in order to indicate the strength of the different active principles present. The unit was also defined in the case of each active principle.

Insulin.

The Health Committee will be pleased to learn that the unit adopted and recommended at the 1925 Geneva session is now in use all over the world as the only unit of insulin.

Consideration was given to the permissible content of organic solid matter per unit in preparations of insulin and in regard to the stability of such preparations, and it was noted that general improvement had taken place in the preparation of insulin and in its manufacture in different countries in both these respects.

In view of the present satisfactory condition, the Commission decided to confirm the action of the Geneva session, particularly in regard to the final adoption of the international unit.

Thyroid Preparations.

No action was taken in regard to these preparations.

Ergot.

The Commission decided to endorse the recommendation of the Edinburgh conference for the standardisation of ergot and its preparations by a method measuring its content of the specific alkaloid (ergotoxin or ergotamine).

Anthelmintics.

Filix Mas. — The Commission made no further recommendation concerning the standardisation of this preparation.

Oil of Chenopodium. — In view of the fact that the chemical determination of the ascaridol content of oil of chenopodium is more satisfactory than any biological method of assay, the Commission decided to make no recommendation in regard to this substance.

* * *

The members of the Committee will, I am sure, feel gratified at the evidence of progress which is given in this report which I have the honour of presenting to you on behalf of the Permanent Standards Commission. I have no doubt that the Committee will wish to recommend to the Council of the League that the report and recommendations of the Frankfort session be now officially communicated to the various Governments and to the competent authorities of these Governments, together with all the relevant documentation, with a recommendation that official action be taken on the basis of the results of the Commission's work.

C. H. 717.

ANNEX 7a.

REPORT OF THE PERMANENT COMMISSION ON STANDARDISATION OF SERA, SEROLOGICAL REACTIONS AND BIOLOGICAL PRODUCTS.

(Frankfort-on-Main, April 25th to 28th, 1928.)

I. STANDARDISATION OF ANTIGENS AND ANTI-BODIES.

1. Anti-diphtheritic Serum.

The Commission noted that, in pursuance of a resolution adopted at the Conference held in Paris in 1922, further comparison of the standard sera of Copenhagen, Frankfort, London, Paris and Washington, carried out at the Danish State Serum Institute, had shown these sera to be identical in titre.

In view of new facts brought to light by the phenomenon of flocculation occurring in the mixture of specific toxin and anti-diphtheritic serum, the Commission decided to study the evaluation of anti-diphtheritic serum and of diphtheritic antigen (toxin and derivatives) by the flocculation method.

To facilitate this study, the Pasteur Institute will place at the disposal of the Health Organisation of the League of Nations samples of serum and of antigen, the latter in the form of previously standardised anatoxin.

2. Anti-diphtheritic Vaccination by Means of Derivatives of Toxin.

In view of the increasing importance of anti-diphtheritic vaccination by derivatives of toxin (anatoxin, etc.), the study of this subject is proposed.

It is desirable that investigations should now be commenced to determine the value of the preparations in use and of the method of vaccination.

In order to facilitate these investigations, the Pasteur Institute will place at the disposal of the Health Organisation of the League of Nations samples of the anatoxin prepared in the Institute.

3. Anti-Tetanus Serum.

In pursuance of the following resolution adopted by the Permanent Standards Commission at the session held in Geneva in October 1926:

> " The unit is to be determined with a standard serum in such a way that its relation to the American unit is exactly 2 International to 1 American unit.
>
> " This resolution is the consequence of the proposals made to the Second International Serological Conference of 1922 by Professor Louis Martin and Professor W. Kolle, and of the investigations carried out in the several laboratories since that date " —

the Danish State Serum Institute compared the standard sera of the different laboratories and found them equivalent in titre, by the various methods in use.

On the basis of these comparative tests, the Commission now proposes to adopt the anti-tetanic unit as defined in the above resolution.

4. Anti-dysenteric Serum (Shiga).

In view of the following resolution adopted by the Permanent Standards Commission at the session held at Geneva in October 1926:

> " The method of assay for anti-dysenteric serum proposed by the State Serum Institute at Copenhagen, on the basis of the work carried out by the Committee for Investigation of Anti-dysenteric Serum (President: Professor Shiga), constitutes a real advance on former methods.

" It is desirable to continue the trials by taking as standard the serum of the Copenhagen Institute. The Copenhagen Institute will send to each laboratory, every two months for a year, the standard serum, with an exact indication of the method of using this provisional unit.

" The laboratories concerned will send every two months for a year, to Copenhagen, anti-dysentery serum exactly assayed according to this method, with a view to confirmation of the results obtained.

" If all the results are in agreement, it will be possible to adopt a definite international unit, in terms of the standard serum of Copenhagen. Only then will it be possible to make a clinical investigation of the therapeutic potency of sera of different origins " —

the Danish State Serum Institute and the participating institutes carried out the tests provided for in the resolution and obtained concordant results.

Accordingly, the Commission proposes to adopt a standard serum prepared and distributed by the Danish State Serum Institute to establish the international antitoxic unit.

The serum is prepared for distribution in such a way that 1 unit is contained in 1/200 of 1 c.c.; and that a dilution in the proportion of 1 : 200 contains 1 unit in 1 c.c.

A test dose of a dysentery toxin shall be defined as such a quantity that, when 1 c.c. of this serum dilution is mixed with it, the mixture shall cause death in one-third of the mice receiving it by intravenous injection.

When a toxin is standardised in this way, it may be used in titrating the sera.

5. Scarlet Fever.

Without expressing an opinion on the ætiology of scarlet fever or on the methods of testing sera prepared with the products of culture of hæmolytic streptococci isolated from cases of scarlet fever, it would be useful to render future researches along this line more readily comparable. To this end, the standard serum adopted by the Federal Government of the United States may be selected as a basis for study; the Hygienic Laboratory has agreed to place at the disposition of the Health Organisation of the League of Nations a sufficient quantity of the standard serum.

6. Anti-gas-gangrene Sera.

In view of recent work on this subject, the Commission considered the possibility of standardising different anti-gas-gangrene sera, and decided to institute comparisons of the standards in the countries concerned, and to place this item on the agenda of the next session.

7. Tuberculin.

In pursuance of the recommendation adopted by the Commission at the session held in Geneva from October 11th to 13th, 1926, in regard to tuberculin, comparative studies of the standards at the National Institute for Medical Research, London, and the Institute of Experimental Therapy, Frankfort, have shown that these standards are identical in potency.

A large amount of this standard has been prepared at the National Institute for Medical Research and placed at the disposal of the Health Organisation of the League of Nations.

The Commission decides to continue the comparison of standards existing in various countries with the standard in question, the State Serum Institute of Copenhagen to act as the central laboratory of the Health Organisation of the League of Nations for this purpose.

In view of the encouraging results already obtained, the Commission considers that agreement may shortly be reached in regard to an international standard.

8. Blood Groups.

The Commission:

I. Learns with satisfaction that, on the initiative of the Health Organisation of the League of Nations, the nomenclature proposed by von Dungern and Hirszfeld for the classification of blood groups has been generally accepted, and recommends that this nomenclature shall be adopted for international use, as follows:

O A B AB

To facilitate the change from the nomenclature hitherto employed, the following is suggested:

Jansky	O (I)	A (II)	B (III)	AB (IV)
Moss	O (IV)	A (II)	B (III)	AB (I)

II. Recommends the adoption of the following method of designating test-sera:

Test-serum A (anti-B),
Test-serum B (anti-A).

III. Suggests that test-serum A (anti-B) should be placed in containers of white glass, test-serum B (anti-A) in containers of brown glass.

IV. Considers that the standard sera in use in various countries should be compared by the Danish State Serum Institute, acting as the central laboratory of the Health Organisation of the League of Nations with a view to the ultimate adoption of international standards. For this purpose, comparative experiments should also be made in regard to the preparation, conservation and titration of test-sera, and also of the methods of determining blood groups.

9. Rabies.

In view of the ultimate possibility of standardising the material used for anti-rabies treatment, the Commission considers that the proposals of Doctor Remlinger provide useful methods of giving effect to the recommendations of the International Rabies Conference.

II. STANDARDISATION OF THERAPEUTIC SUBSTANCES BY BIOLOGICAL METHODS.

1. Salvarsan.

The Commission reviewed the recommendations of the Geneva Conference of 1925 as to the suitability of the standard preparations supplied by Professor Kolle, and distributed by Dr. Dale for experimental investigation. The following conclusions with regard to the Geneva recommendations were reached:

I. That the internationally recognised biological standardisation of remedies of the arsenobenzene group should be made with a series of standard preparations, one for each of the compounds in question. (Endorsed without modification.)

II. That the following are the remedies which at present should be the subject of internationally recognised standardisation (endorsed without modification):

1. Dioxydiamino-arsenobenzene dihydrochloride (syn. salvarsan, arsphenamine, arsenobenzol, etc.); and
2. Its metallic derivatives (silver-salvarsan); and
3. Its sodium salt (sodium salvarsan);
4. Dioxydiamino-arsenobenzene sulphoxylate of sodium (syn. neosalvarsan, neoarsphenamine, novarsenobenzol, etc.);
5. Neosilver-salvarsan;
6. Sulpharsphenamine (syn. sulfarsenol).

III. That Professor Kolle of the Georg-Speyer Haus, Frankfurt-on-M., be requested to accept the responsibility for preparing, maintaining and distributing the standard preparations (1) to (5) on behalf of the Health Organisation of the League of Nations, and that Professor Voegtlin, of the Hygienic Laboratory, Washington, be invited similarly to be responsible for the standard preparation of (6). (Endorsed.)

The Commission added the following recommendations with regard to the standard preparations of neosalvarsan and sulpharsphenamine:

(1) That the standard samples for neosalvarsan and sulpharsphenamine provided by Professor Kolle and Voegtlin respectively for trial, are suitable, as regards toxicity and experimental therapeutic activity, for adoption as the basis for the international standards;

(2) That, when a new preparation of neosalvarsan is required, it shall be tested in the first instance in the Frankfort Institute of Experimental Therapy, and there found to be equivalent in toxicity and experimental therapeutic activity to the existing standard; and that its equivalence to the existing standard in these respects shall be confirmed by tests carried out in the National Institute for Medical Research, London, acting on behalf of the Health Organisation of the League of Nations, before its adoption for use as an international standard.

Similarly, when a new standard of sulpharsphenamine (sulpharsenobenzene, sulpharsenol, myosalvarsan) is required, this shall similarly be tested and found equivalent to the existing standard in the Hygienic Laboratory, Washington, and this finding shall be similarly subject to international confirmation, before the new standard is adopted for international use.

With a view to ensuring the greatest possible stability for the standards of these two salvarsan derivatives, the Commission considered that the following precautions should be adopted. The material intended for use as a standard should be tested for its stability by heating to 60° C. for several days; it should be dried to constant weight *in vacuo* over P_2O_5; it should be hermetically sealed in glass ampoules filled with a dry, neutral gas; and it should thereafter be kept at a temperature not higher than 0° C. before issue, and subsequently in the official institute in each country to which it is distributed.

IV. It was decided to recognise a test for experimental therapeutic action on animals infected with spirochaetes as an alternative to that in which trypanosomes are used. The recommendation of the Geneva Conference of 1925 was accordingly modified to read as follows:

" That every batch of the remedies in question, before issue for therapeutic use on human patients, should be tested on normal animals for toxicity and on animals infected with a suitable strain of pathogenic trypanosomes or spirochaetes for experimental therapeutic activity."

V. In view of experiments undertaken to determine the efficacy of different tests in recognising the presence in different preparations of a toxicity exceeding that of the standard preparation by varying percentages, it was decided that a 20% excess of toxicity above that of the standard would be a suitable limit of tolerance, and the recommendation of the Geneva Conference of 1925 was accordingly modified to read as follows:

" That samples of every batch should be tested for toxicity on at least ten mice or five rats, or on both, material from several separate ampoules of each batch being separately tested, and that only such preparations should be passed for issue as exhibit, under identical conditions of experiment, a toxicity not exceeding that of the corresponding standard sample by more than 20 per cent."

VI. The necessary modification was made in conformity with IV as now adopted:

" (1) A series of mice or rats is to be taken, having the same degree of infection with trypanosomes or spirochaetes, as determined by some method of enumeration per unit volume of blood.

" (2) In such a series of animals with a uniform degree of infection, each batch should be tested for therapeutic action in several (*e.g.*, two to four) doses, with at least three animals on each dose, and the result should be evaluated by comparison with the effects of the standard preparation, administered to animals of the same species, with the same degree of infection.

" (3) Only such preparations should be passed for issue as exhibit, under identical conditions of experiment, an experimental therapeutic activity not less than that of the corresponding standard sample by more than 20 per cent."

VII. It is further recommended that, before a batch of one of the remedies in question is certified for general issue, samples of it shall have been used on a series of human patients, under the supervision of a qualified expert. (Endorsed without modification.)

VIII. It was agreed that any individual State could modify its national standard, on the condition that its toxicity and its experimental therapeutic activity are determined by comparison with those of the International Standard.

2. Digitalis.

The Commission reviewed the recommendations of the Conference held at Geneva in 1925. In considering recommendation No. 1:

" 1. That, as an international standard, a dry, powdered preparation of the leaves of *digitalis purpurea* shall be made by Professor Magnus, on behalf of the Health Organisation of the League of Nations, of the same strength (± 10%) as the experimental standard powder, prepared in accordance with the decision of the First International Conference on Biological Standardisation (Edinburgh, 1923), and forming the basis of the various reports presented to this Conference. This standard shall be prepared by the mixture of ten different powders, made from leaves properly dried at 55-60° C., shall be adjusted by biological assays, carried out by Professor Magnus (who will use the method of assay on cats), and shall be distributed for international use. The permanence of its activity shall be annually controlled by Professor Magnus. If it should deteriorate, or if the supply should be nearly exhausted, a new standard preparation shall be prepared by the same method, and of exactly equal activity.

" The preparation shall be distributed in sealed ampuls of brown glass. These shall be placed at the disposal of the different countries, for the assay of their own national standard preparations" —

they had in evidence reports from different countries in which the standard preparation furnished by the late Professor Magnus had been on trial since 1925. In Germany, a national standard based on that prepared by Professor Magnus had been officially adopted, and in practical use since January 1st, 1928. There had been no difficulty in preparing the whole of the supply of Folia digitalis required for use in Germany to such a strength that 1 gramme contained from 2,200-2,350 lethal doses for the frog, a value which corresponded closely with that of the standard prepared by Professor Magnus. The results in other countries in which the standard had been tried, but without official adoption, being also uniformly favourable, the Commission decided that the standard preparation in question should now be definitely adopted for international use.

Owing to the lamented death of Professor Magnus since the Geneva Conference of 1925, it was necessary to recommend a new arrangement for the renewal of the standard when the present supply should be nearly exhausted or should show signs of deterioration. The Commission recommended that the Pharmacological Laboratory University of Utrecht, Holland, be requested to undertake this responsibility. They recommended that Dr. Bijlsma should be asked to prepare

such a standard by mixing a number of samples of carefully dried digitalis leaves from different sources, so as to obtain a mixture possessing specific activity identical with that of the existing standard as measured by the cat method. They further recommended that, before its adoption to replace the standard prepared by Professor Magnus and in international use, the new standard prepared by Dr. Bijlsma should be tested in other countries by other methods — by the infusion methods using guinea-pigs as recommended by Professor Knaffl-Lenz or dogs as recommended by Professor Tiffeneau, and particularly by the lethal dose method on the frog. Only when the reports from the experts in different countries, who would test it by such different methods, showed it to be practically identical in activity with the existing standard, should it be definitely adopted. It will then be kept and distributed by the National Institute for Medical Research, London, acting on behalf of the Health Organisation of the League of Nations. The Commission further recommended that, in preparing a standard for international use, it would be desirable to use more stringent precautions for drying the material than those which were adopted by Professor Magnus, so as to give a water-content in the final product, as distributed into glass ampuls for preservation, of not more than 3 per cent, in place of the 7 to 8 per cent water-content of the existing standard preparation.

"No. 2. According to present knowledge, no particular method of extraction (infusion, cold alcohol, warm alcohol) can be recommended as the only correct one. It is necessary, however, for the purpose of assay, that the preparation to be tested and the standard preparation shall be extracted by the same method." (Adopted without modification.)

No. 3. The Commission considered that they had now sufficient evidence before them to justify a somewhat wider recommendation with regard to comparative methods of testing than that adopted by the Geneva Conference of 1925. It considered that the following methods might be recommended as suitable:

(*a*) The frog method in the form recommended by the Geneva Conference, or in its other modifications.

(*b*) The method using intravenous infusion in the mammal, as described by Hatscher and modified by Magnus and his colleagues for the cat, by Knaffl-Lenz for the guinea-pig, or by Tiffeneau for the dog.

(*c*) The Commission considered that the methods described by Mansfeld, using portions of the isolated *sinus venosus* of the frog, and by Trevan, using the isolated auricle of the rabbit, merited further investigation, with a view to consideration on a future occasion.

With regard to the recommendation made by the Geneva Conference of 1925, in connection with the frog test, as described in detail in their report, for a tolerance of ± 25 per cent in relation to the standard, the Commission considered, in the light of experience since obtained, that this allowance was unduly generous, and that the tolerance of ± 15 per cent would give an adequate margin for practical use.

With regard to the preparation and standardisation of the *tincture* of digitalis, the Commission took the view that it is desirable to have regard to the conditions of its preparation, whether in small quantities, as by the individual pharmacist, or on a large scale, as in pharmaceutical factories. In the former case, no further prescription is necessary than the use, for preparation of the tincture, of a standardised powder, so as to conform to the international standard. In the latter case, which would apply also to the manufacture on a large scale of different proprietary preparations of digitalis containing the whole of the active principles of the drug, it was regarded as unnecessary to require the use of the drug of standard strength, provided that the activity of the tincture, as so prepared, is controlled by biological assay, and adjusted to identity in activity with the tincture prepared from the international standard. For the convenience of notation under such conditions, it was considered that the definition of a *unit* of digitalis activity, in terms of the international standard preparation, would be desirable, and the Commission made accordingly the following recommendation:

"That, when the dosage of digitalis or its preparations is expressed in units of activity, the unit employed for any preparation and in any country should be an *international unit*, which should be defined as *the specific activity contained in* 0.1 *gramme of the international standard powder*."

No. 4. With regard to the recommendation of the Geneva Conference of 1925 for the use of G. strophanthin (ouabain) as a standard for preparations of strophanthus, the Commission, considering the variable activity of different preparations of ouabain, due to varying proportions of water of crystallisation, recommends that, in using ouabain as a standard for biological assay, the quantity employed should be expressed in terms of the weight of water-free ouabain present. To facilitate this they recommended that a sample of ouabain should be prepared and kept as an international standard for the biological assay of strophantus and its preparations, and that this standard should have an accurately determined content of water-free ouabain. Professor Tiffeneau will prepare such a standard and place it at the disposal of the League of Nations, the National Institute for Medical Research, London, keeping and distributing it on behalf of the Health Organisation.

3. Scilla.

The Commission considered the possibility of establishing an international standard for scilla and its preparations and recommended that the possibility of preparing a stable standard from a suitable dried sample of the drug should be the subject of experimental enquiry.

4. Insulin.

The Commission had under review results from official and other laboratories in different countries, in which, since 1925, the standard preparations of insulin recommended by the Geneva Conference of 1925 have been in use. The Commission found that the results were uniformly favourable and that the unit adopted and recommended by the Geneva Conference of 1925 was now in use all over the world as the only unit of insulin. In view of this satisfactory position, the Commission decided to adopt the recommendations of the Geneva Conference of 1925 as regards the standard of insulin without modification:

" 1. That the dry preparation of insulin hydrochloride, prepared by the Medical Research Council of Great Britain, at the request of the Edinburgh Conference, should be accepted as the international standard preparation of insulin. That 1 milligramme of this standard contains 8 units of insulin (or 1 unit = 0.125 milligramme), as provisionally defined by the Insulin Committee of the University of Toronto.

" 2. That this standard preparation be kept, on behalf of the Health Organisation of the League of Nations, by the Medical Research Council, who will undertake to test the permanence of its potency from time to time.

" 3. That samples of this preparation, weighing 0.100 gramme each, be sent to some responsible organisation in each country (such as an Insulin Committee or a Government institution) who will undertake further distribution to testing laboratories. In those countries in which no suitable organisation for this purpose exists, samples of the standard will be distributed by the Medical Research Council after consultation with the Insulin Committee of the University of Toronto, or, in case this Committee be discontinued, with one appointed by the Committee of the League of Nations.

" 4. That each testing laboratory should prepare a standard of its own, and should compare the potency of this with the sample of the international standard placed in its hands for this purpose. When the latter is exhausted, further comparisons with the international standard should, where possible, be undertaken by the responsible authority for the particular country.

" 5. That either of the following methods be considered as suitable for the bio-assay of insulin:

" (*a*) *Methods depending on the effect on blood-sugar.*

" *First method.* — Varying quantities of insulin that are less than the convulsive dose are injected subcutaneously into rabbits of about two kilograms body-weight, from which food has been withheld for 18-24 hours, and the average of the blood-sugar percentages over a period of five hours after the injection is subtracted from the blood-sugar percentage immediately preceding the injection. The number of units of insulin present in each cubic centimetre of the preparation is then calculated by use of a formula (see report). Each rabbit used in the assays is tested at suitable intervals with a standard preparation which is periodically compared with the international standard.

" *Second method.* — Alternatively, one-half of a series of rabbits receives, in each case, an injection of ½ unit of the standard preparation per kilogram, and the other half receives, on the same day, the dose supposed to be equivalent to the sample under test. The percentage fall of the blood-sugar content over a period of five hours is determined as above. A few days later the determinations are repeated on the same series of rabbits in this way, that the rabbits previously receiving the standard preparation now receive that under test and *vice versa*.

" From the relation between the falls of blood-sugar content produced, on the one hand, by the standard preparation, and on the other hand by the sample under test, the true activity of the latter in units per c.c. can be calculated. (See separate report.)

" (*b*) *Method depending on the incidence of symptoms in white mice.*

" The assay is carried out by comparison with a standard preparation injected simultaneously with the unknown sample on an equal number of mice from a common stock. The onset of convulsions or collapse is used as the end point of the reaction and a mouse dose is the quantity producing convulsions (or collapse) in half the number of mice injected. During the test the mice are kept in an incubator at a uniform temperature of not less than 30° C. (For details of these methods see separate report.)

" 6. That the Conference appoint a sub-committee, which shall submit recommendations with regard to the permissible content of organic solid matter per unit in preparations of insulin and with regard to tests for the stability of such preparations.

" 7. That, in future, the term " unit of insulin " or " insulin unit " should only be used in the sense indicated above. "

On the question raised concerning recommendation No. 6, no information had been received from the suggested Sub-Committee to put before the Commission, with a view to a decision concerning the permissible content of organic solid matter per unit in preparations of insulin, or with regard to tests for the stability of such preparations. In view of the general improvement of the preparations of insulin now manufactured in different countries in both these respects, the Commission is of opinion that international action with regard to them might no longer be necessary. Recommendation No. 6 of the Geneva Conference may be regarded as in abeyance until there is some further indication of the necessity of international action. It was decided that the standard will be conserved and distributed by the National Institute for Medical Research, London, acting on behalf of the Health Organisation of the League of Nations.

5. Pituitary Extract.

The Commission reviewed the recommendation made by the Geneva Conference of 1925 and reached the following conclusions:

Recommendations 1 and 2 should be endorsed without modification, the reports from different centres to which the standard material prepared by Professor Voegtlin had been distributed in the intervening period being uniformly favourable to its adoption, viz.:

"1. That the dry (acetone) extracted substance of the fresh posterior lobe of the pituitary gland, which was recommended by Professor Voegtlin to the Edinburgh Conference as suitable for adoption as a standard of activity for pituitary extracts, and which has since been adopted as the standard for this purpose in the United States Pharmacopœia, Edition X., be now definitely accepted as the International Standard.

"2. That, since the evidence before the Conference indicates that, by strict adhesion to the instructions for its preparation, as given in the United States Pharmacopœia, Edition X, a sample of this powder of standard strength can be prepared at any time and in any country, the authority responsible for biological standardisation, in each country concerned, should prepare such quantities of the standard as are needed for distribution in its own country. That Professor Voegtlin be requested to furnish, on behalf of the Health Organisation of the League of Nations, a small sample of the standard, as originally prepared for examination by the Edinburgh Conference, to any authority which may need it for confirmation of its own national standard."

With regard to recommendations Nos. 3 and 4, the Commission regarded these as no longer necessary and as possibly undesirable, in view of the doubt expressed by certain members of the Conference as to whether these standard powders prepared by extraction with acetone retained the anti-diuretic activity of the original gland without loss. The Commission accordingly decided that recommendations Nos. 3 and 4 of the Geneva Conference should not be endorsed.

Recommendation No. 5 was discussed in detail and the Commission decided that it should be altered to read as follows:

"That the extracts from the standard powder should be prepared for the purposes of the comparative biological tests according to the method indicated in the United States Pharmacopœia, Edition X; for the purposes of biological assay, the test on the isolated uterus of the virgin guinea-pig as described in the United States Pharmacopœia, Edition X, is recommended for estimation of the oxytocic activity; for estimation of the pressor activity, comparative tests on the anæsthetised dog or the decapitated cat are recommended; for estimation of the anti-diuretic action, tests on the unanæsthetised dog, on the normal man, or on the patient with diabetes insipidus are regarded as suitable."

Note.

The Commission has taken into consideration the effect on the recommendations of the Geneva Conference of 1925 of recent evidence proving that the pressor and oxytocic activities of the pituitary extract are due to different active principles, and of indications that the anti-diuretic activity may be due to yet another principle. It has noted that the discoverers of the method of separating the pressor and oxytocic principles have found no difficulty in expressing the activity of their univalent preparations in pressor and oxytocic units of the international standard powder. It is accordingly of opinion that, if the anti-diuretic action should prove to be due to yet another principle, it may be possible to express its activity in units of anti-diuretic action of the same standard powder, but considers that further evidence is necessary of the uniformity and stability as regards this action of different preparations of the standard.

The Commission accordingly recommends, in the light of the uniformly favourable experience obtained since the Geneva Conference of 1925, *that the dry preparation of the acetone-extracted fresh posterior lobe substance of ox pituitary be now definitely adopted as the international standard preparation for the biological evaluation of preparations of the posterior lobe of the pituitary body, whether containing all the active principles of the lobe, or the pressor or oxytocic principle only, in separate solution.*

It further recommends that the activity of any such preparation should be expressed in relation to the international standard in units of pressor or oxytocic activity, and that, in each case, *the unit of such activity* shall be that of 0.5 *milligramme* of the standard powder.

Concerning the suitability of the standard for assay of the anti-diuretic action, the Commission as yet expresses no final opinion.

No. 6. The Commission considered recommendation No. 6 of the Geneva Conference of 1925, and decided to adopt it with such modification as to make it read as follows:

"That, in making the assay for oxytocic action on the guinea-pig's uterus, it is recommended that a test for non-specific, stimulant activity on that organ should be applied. This can be done by treating the extract under examination with normal NaOH for one hour at the ordinary temperature, neutralising to litmus paper, and re-testing on the guinea-pig's uterus; or the untreated extract may be tested for such non-specific, stimulant action on the isolated guinea-pig's intestine in comparison with histamine. Neither method should show an activity corresponding to that of more than 0.1 milligramme of histamine (base) per 10 units of specific oxytocic activity."

No. 7. In view of the evidence before them that the methods of indicating the strength of extracts in the units recommended by the Geneva Conference of 1925 have been found of practical value in different countries and particularly in the United States of America, where the standard, but not the unit, has already been adopted in the Pharmacopœia, the Commission decided to endorse the recommendation No. 7, of the Geneva Conference of 1925, with modifications, as follows:

"That the strength of all extracts of the pituitary posterior lobes should be expressed in units of activity, *the activity extracted from* 0.5 *milligramme of the standard powder under the conditions above indicated being defined as one unit.*"

6. Thyroid Preparations.

The question of the necessity of biological standardisation for thyroid preparations was further considered, and the Commission decided to make no further recommendation at present.

7. Ergot.

In view of results of recent clinical experiments showing that the essential factor in the activity of ergot on the uterus is the action of the specific alkaloids (ergotoxine, ergotamine), histamine having a subsidiary effect in accelerating the onset of the action, and experiments made on the parturient cat, which appeared also to indicate a potentiating effect of histamine on the action of the specific alkaloids, the Commission decided to endorse the recommendation of the Edinburgh Conference for the standardisation of ergot and its preparations by a method measuring its content of the specific alkaloid (ergotoxine or ergotamine). For this purpose, the method of Broom and Clark, using the isolated uterus of the rabbit, was recommended as convenient and accurate.

Anthelmintics.

8. Filix Mas.

The Commission made no further recommendation concerning the standardisation of this preparation.

9. Oil of Chenopodium.

The different biological methods for standardising or controlling the activity of this substance, with reference to its content of ascaridol having proved unsatisfactory, and in every case inferior to a relatively simple colorimetric chemical determination of the ascaridol content, the Commission decided that no recommendation can at present be made for the biological assay of this oil.

List of the Participants.

I. *Permanent Standards Commission of Biological and Serological Products:*

Dr. Madsen, Chairman. — Professor Kolle.
Dr. H. H. Dale. — Professor Louis Martin.

II. *Serology: Sub-Commission for Anti-Dysentery Serum.*

Professor Doerr.	Professor Dumas.	Professor Louis Martin.
Professor Dopter.	Professor Hirszfeld.	Dr. O'Brien.
Dr. Douglas.	Professor Kolle.	Professor Tsurumi.

The following were invited to discuss:

Anti-Scarlet-fever Serum:	*Tuberculin:-*	*Blood Groups:*
Dr. H. H. Dale.	Dr. H. H. Dale.	Dr. H. H. Dale.
Dr. Douglas.	Dr. Douglas.	Dr. Douglas.
Professor Hirszfeld.	Professor Kolle.	Professor Hirszfeld.
Professor Louis Martin.	Professor Louis Martin.	Professor Kolle.
Dr. O'Brien.	Dr. O'Brien.	Professor Louis Martin.
	Professor Tsurumi.	

Anti-Rabies Treatment: Dr. Remlinger.

III. *Biological Products:*

The following were invited to discuss:

Salvarsan:	*Insulin and Pituitary Extract:*	*Digitalis:*
Dr. Bijlsma.	Dr. Bijlsma.	Dr. Bijlsma.
Dr. H. H. Dale.	Dr. H. H. Dale.	Dr. Burn.
Professor Hata.	Professor Hata.	Dr. H. H. Dale.
Professor Hirszfeld.	Professor Knaffl-Lenz.	Professor Knaffl-Lenz.
Professor Knaffl-Lenz.	Professor Rost.	Professor Rost.
Professor Rost.	Professor Tiffeneau.	Professor Tiffeneau.
Professor Tiffeneau.		

The following were also present at the meeting:

Professor Bieling, Professor Bürgers, Professor Busson, Professor Dold, Dr. Gonzales, Professor Haendel, Professor Hetsch, Professor Kraus, Professor Krohne, Professor Laubenheimer, Dr. Leist, Professor Lentz, Dr. Mouriz, Professor Neufeld, Professor Otto, Professor Sachs, Professor Saforcada, Dr. de Santina, Professor Schlossberger, Dr. Schmidt.

ANNEX 8.

ANTI-TUBERCULOSIS CAMPAIGN TO BE CARRIED OUT IN GREECE.

REPORT BY PROFESSOR LÉON BERNARD, SUBMITTED TO THE COMMITTEE ON MAY 4TH, 1928.

The situation described by Dr. Copanaris cannot leave us indifferent, and I think the Health Organisation should feel honoured by the request that it should collaborate from a technical point of view in the measures to be undertaken to combat the havoc caused by tuberculosis in Greece.

That noble nation has established new claims on universal admiration by the magnificent work accomplished after so many years of war in settling on her own historic soil thousands and thousands of refugees, in providing them with clothing, food, care, and at length ensuring their establishment by a progressive incorporation into the original population. History will one day celebrate this new epic. This work has been accompanied by the appearance of health problems, of which certain have previously been brought to our attention and in the solution of which we have rendered some assistance; the last — that of tuberculosis — to-day calls for our attention.

It is not surprising that material and moral conditions arising out of the privations, misery and suffering which have accompanied the exodus of these unfortunate Greeks from Asia Minor and elsewhere, and the crowding together of human beings, with the distress and promiscuity which are its inevitable consequences, should have in large measure favoured the development of the scourge of tuberculosis. As a result of the slow absorption of the refugees by the original population, the disease has extended to the main body of the people. At the present moment these two elements of the population can hardly be distinguished, and the problem should be treated as a whole.

The methods of approach to this problem should be those of which the success has been demonstrated wherever they have been applied energetically and methodically, notably in Great Britain, the United States of America, Germany and France. They include the creation of dispensaries, of hospital provision, and organisation for the protection of children. The dispensaries alone enable at one and the same time the search for patients, the diagnosis of the disease, the securing of proper treatment for each case, the carrying out of preventive measures in their families, and the educative measures so essential in the interests of both, to be effected. This is not the place to develop these ideas or to outline their methods of application, but the question arises, How many dispensaries are necessary and where should they be established? For the city of Paris, certain calculations led to the conclusion that one dispensary is necessary for about 900 tuberculous families. It would be necessary in Greece to carry out a local enquiry in certain districts selected — in the first place, for example, in Athens, the Piræus, Salonika and Patras — an enquiry which would give an approximate idea of the number and distribution of those suffering from the disease and subsequently of the number and situation of the dispensaries to be created. The classic experiment of Framingham, which was carried out some years ago in Massachusetts, might serve as a guide. It is hardly necessary to say that an investigation of that kind can only be carried out by specially trained doctors and visiting nurses. I shall come back to the point, but I should like to insist on the fact that it is not a question of a statistical study of morbidity statistics, into which many errors might creep, but a preliminary clinical enquiry dealing with the extent and distribution of a widely scattered and often hidden disease, an enquiry having as its main object to indicate the best manner of using the resources available for the campaign.

For hospital accommodation the costly construction of sanatoria is not indicated. It would be preferable to organise establishments which we call in France hospital-sanatoria, *i.e.* special hospitals furnished with facilities for the cure and prevention of tuberculosis where all kinds of tuberculous patients can be sheltered. It is preferable that they should be situated outside but quite near to towns, and for this purpose existing buildings can often be used if they be specially fitted up, or temporary buildings can be constructed — a method which has been successfully adopted in many parts of France — if sites sufficiently accessible and with a proper exposure are selected. One may obtain in this way temporary structures, which, if well placed and well directed, can give inestimable service. As for the number of beds that should be provided, this would be determined by the number of deaths, for which purpose an enquiry is necessary. Experience in Denmark and the United States indicates the desirability that the number of beds should equal the number of deaths. According to certain comparative studies that I have made with regard to this matter, this provision is somewhat large, and two beds for three deaths is, in my opinion, sufficient. It is obvious that one cannot hope to fulfil all such desiderata. But this is the scale that should be aimed at and accepted as a guide for future effort.

However, the habitations in which a number of refugees suffering from tuberculosis are living would perhaps enable an experiment to be carried out more easily than elsewhere in the matter of creating villages for sufferers from tuberculosis, on the lines, for example, of the remarkable colonies in Great Britain, notably that of Papworth. Such tuberculosis villages, while assuring sufferers from the disease necessary care, would facilitate a rapid return, under medical supervision, to family and social life, including remunerative occupation, having regard to the patient's capacity for work. The protection of children should to-day be inspired by three principles:

1. The principle of separation, formulated by Grancher, which consists in separating children from tuberculous parents before family infection may have produced its sad results.

2. The creation of preventoria for children already infected.

3. The specific immunisation by Calmette's B. C. G. soon after the birth of children of tuberculous parents.

As for the first point, a local enquiry would be necessary to find out under what conditions Grancher's principle might be applied in Greece. In the first place, an educative effort should be made to convince the parents of the necessity for separation from their children. There is little doubt that the lively intelligence of the Greek race would respond readily to such teaching, if it be given with tact and conviction.

Another point is as to whether local manners and customs offer possibilities of placing the children out in peasant families, or whether the children separated from their parents should be placed in collective establishments. These two methods of placing the children out should be considered separately for small infants and for larger children. Such problems demand careful preliminary study.

The only difficulty in so far as preventoria are concerned is one of finance. Even that difficulty is not a very large one, because for these preventoria existing buildings might be used. There remains, however, the question of personnel, which we shall take up later. While waiting for a solution to these problems, there is a simple, easy, harmless method which can be used, the efficacy of which is becoming ever more apparent — that is, immunisation. I believe that, in populations decimated by tuberculosis, this is the first measure to be carried out; by it many lives would undoubtedly be saved.

Carrying out the measures that have been outlined necessitates a campaign of educative propaganda and a sufficient trained personnel. Without the health education of the population, the proposed measures can never be applied. The Rockefeller Foundation has laid down the lines on which this education should be carried out. Perhaps the Foundation might be willing to give its assistance in this matter. In any case, it should be carried out on the lines they have formulated and for that the technical personnel for the anti-tuberculosis campaign should be adequate.

This personnel consists of specialised medical officers and visiting nurses. Without both of these it is hardly worth while to carry out the work which we propose. A nucleus might be found in the specialists and nurses of the Red Cross, but provision should be made for the preparation of many new units. There are many schools for the training of visiting nurses in many countries, and I need hardly say that those of France and, in particular, the school of the National French Committee will be happy to offer hospitality and instruction to such young Greek applicants as may ask for it.

The doctors must also receive a special training for their task. As the knowledge of the French language is widespread in Greece, I should be happy to welcome a certain number of the future occupants of the posts which will be created in the clinic for tuberculosis which I am about to install in the Faculty in Paris. As a matter of fact, I propose to give there an instruction for specialists in anti-tuberculosis work.

Such, gentlemen, are the technical considerations which arise from a study of the Greek situation and from the request for help that has been addressed to us by the Director of the Health Services of that country. From the financial point of view, the organisation which has been set up under the auspices of the League of Nations for the settlement of refugees might perhaps assist step by step, as is imposed by the very nature of things, to the ultimate realisation of the proposals which I put before you. If you are in agreement with them, it will be well to recommend to the Council of the League of Nations the adoption of the proposals of the Health Committee. These proposals would include the outline of an anti-tuberculosis campaign that I have given, as well as the permanent assistance of our organisation by the despatch to Greece of a member of the Secretariat or of a member of the Committee, as circumstances may dictate, in connection with the enquiries to be carried out, the first measures to be applied, and, finally, the establishment of a methodic collaboration with Greek authorities in carrying out this work.

C.H.719.

ANNEX 9.

DESIGNATION OF THREE ADVISERS TO THE HEALTH ADMINISTRATION OF THE FRONTIERS PROVIDED FOR IN THE DECLARATION OF JULY 24TH, 1923, ANNEXED TO THE TREATY OF LAUSANNE.

LETTER FROM THE TURKISH GOVERNMENT TO THE SECRETARY-GENERAL OF THE LEAGUE.

Berne, May 1st, 1928.

[*Translation.*]

The Government of the Turkish Republic some time ago approached the Office international d'Hygiène publique, through the intermediary of its Ambassador at Paris, with a view to the designation of candidates from among whom would be selected, in conformity with the Declaration

of July 24th, 1923, annexed to the Treaty of Lausanne, three expert medical officers as advisers to the Health Administration of the Frontiers.

The Health Committee of the League of Nations will have been kept informed by the Office international d'Hygiène publique of all the correspondence exchanged with regard to this matter; nevertheless, the selection of candidates seems to be postponed until the Permanent Committee of the Office international shall have examined the terms of appointment during its May session.

As the Government of the Turkish Republic desires to be able to make a selection of the advisers in question as soon as possible, I should be very much obliged if you would refer this matter to the Health Committee of the League of Nations, with the object of securing the prompt designation of candidates, and let me know the results of your kind action in this matter.

(*Signed*) Mehmed Munir,
Minister.

C.H.711.

ANNEX 10.

YELLOW FEVER IN THE CONGO ESTUARY.

LETTER FROM THE BELGIAN GOVERNMENT TO THE SECRETARY-GENERAL OF THE LEAGUE.

Brussels, April 25th, 1928.

[*Translation.*]

His Majesty's Government has been informed that the League of Nations contemplates inviting the three countries situated on the estuary of the Congo (France, Portugal and Belgium) to enter into an agreement and to take common action in respect of all prophylactic measures necessary to avoid the spread of yellow fever.

His Majesty's Government wishes all success to this interesting undertaking, but it feels that it must point out that it would appear indispensable to see associated with this arrangement the British Colonies, Territories and Protectorates so as to ensure that Central Africa be protected from yellow fever.

The threatened penetration of this disease by way of the estuary of the Congo and by the important lines of communication which converge on the centre of Africa constitutes, as one knows, a danger of extreme gravity. Moreover, it must be noted that this danger exists not only for the countries established in the Congo Basin but also for the tropical regions washed by the Indian Ocean. The mosquito-carrier is found in the central bed of the river Congo and its tributaries, also on the East Coast of Africa, and the mosquito-carrier swarms in the East Indies.

In view of these circumstances, I have the honour to communicate to you the request of His Majesty's Government, acting on behalf of the Belgian Congo, that the League of Nations should enter into negotiations with the various interested Governments in order to conclude this arrangement and to prepare the lines along which action should be taken.

These countries will therefore be:

Great Britain, representing its possession in tropical Africa;
France, representing its possessions in tropical Africa;
Portugal, representing its possessions in tropical Africa;
Belgium, for the Belgian Congo.

(*Signed*) Hymans.

C.H.721.

ANNEX 11.

FOUNDATION FOR THE AWARD OF A DARLING MEDAL AND PRIZE.

MEMORANDUM BY THE SECRETARIAT SUBMITTED TO THE COMMITTEE ON MAY 4TH, 1928.

Geneva, April 23rd, 1928.

The Health Committee will remember that, at its sixth session, held at Geneva in April 1926, it approved a draft set of regulations (document C.H.465) for the award of a prize and of a medal to perpetuate the memory of Dr. S. T. Darling. This prize is to be awarded to the author of an original work on malaria (Appendix I).

At its eleventh session the Health Committee was again called upon to consider the Malaria Commission's proposal regarding the establishment of the Darling Foundation. The subscription list had then just been closed on reaching a total of 10,076 Swiss francs. It was proposed to carry the scheme definitely into effect, and Statutes had accordingly been drawn up.

Various objections being raised, however, by M. Velghe and Professor Pittaluga, the Medical Director was asked to draw up an amended text for the statutes after consulting M. Velghe and Dr. Lutrario. All the steps contemplated in the Health Committee's recommendation have

been taken, and the Medical Director, with the assent of M. Velghe and Dr. Lutrario, has the honour to submit the amended draft of the Statutes of the Foundation (Appendix III).

In accordance with these Statutes, it is proposed to fix the capital of the Foundation at 10,000 Swiss francs. The interest would, in the first place, be appropriated to the payment for the steel dies for the medal (£50) (see Appendix I); then it would be capitalised so as to constitute the cash prize which would be awarded for the first time as soon as an amount of 1,000 Swiss francs had been reached. The first prize would probably therefore only be awarded in 1932 [1].

II. It is further proposed to take the necessary legal steps to constitute the Foundation. With this object, the Medical Director has consulted a Geneva notary, who has submitted a draft constitution for the Foundation (Appendix II), which is valid in Swiss law and which, with a few indispensable alterations [2], will enable the scheme set out in document C.H.465 to be put into effect.

The scheme contemplates:

1. The formation of a Darling Foundation Committee to award the prize.
2. The appointment of an Administrator to carry out the decisions of the Darling Committee. The Administrator will be the Medical Director of the Health Section of the League of Nations as such.
3. The appointment of a Manager of the Foundation's property. This duty will be discharged by the bankers of the League of Nations (Lloyds and National Provincial Foreign Bank), who will have to invest the capital in gilt-edged securities or keep it on long-term deposit.

Appendix I.

Note on the Darling Medal and Prize.

As the contributions amount in all to a capital of 10,000 Swiss francs, the accumulated interest will make it possible to award *at varying dates*:

(1) A cash prize of a *net amount of* 1,000 Swiss francs;
(2) A bronze medal.

The medal might be about 6 centimeters in diameter. On one side would be engraved the name and portrait of Dr. Darling, with the years of his birth and death, the whole surrounded by the inscription " The Darling Prize: Prix Darling "; on the other side, in the centre, the inscription " For his valuable research work on malaria " and below, the name of the person to whom the prize is awarded and the year, the whole surrounded by the inscription " League of Nations — Health Organisation: Société des Nations — Organisation d'Hygiène ".

The sinking of two steel dies for a medal of this kind would cost about £50, which would be taken from the capital. This sum would be deducted from the first interest.

As the cost of striking the medal would be about 20 Swiss francs, the prize might be awarded approximately every two years, when the accumulated interest amounted to at least 1,020 Swiss francs.

Appendix II.

Draft deed of Foundation.

Article I.

Under the style of the Darling Foundation there is established this day by..... a foundation..... which shall be administered in accordance with Articles 80 and following of the Swiss Civil Code and with the following special regulations:

Article II.

The Foundation is established for the purpose of awarding a prize every two years to the author of an original work on the pathology, ætiology or prophylaxis of malaria. The prize shall consist of a bronze medal and a sum of..... francs.

Article III.

The Foundation shall be established at the seat of the League of Nations.

Article IV.

The founder endows the Foundation with a capital of ..... Swiss francs.

---

[1] The accrued interest amounted to 162 francs at December 31st, 1927.

[2] These alterations are of a legal nature and relate to the League of Nations, which, as such, must not be a party to the Deed of Foundation.

Article V.

The officers of the Foundation shall be:

(1) The Administrator of the Foundation, who shall be the Medical Director of the Health Section of the Secretariat of the League of Nations as such;
(2) The Trustee of the funds of the Foundation (see Article IX).

Article VI.

Within the limits of these regulations, the Administrator shall execute the decisions of the Darling Committee, under the direction of the Health Committee of the League of Nations. He shall represent the Foundation in its dealings with third parties.

Article VII.

The Administrator shall audit and approve the accounts kept by the Trustee.

Article VIII.

The Foundation's funds shall be entrusted to Lloyds Bank, and this office is accepted on its behalf by .....

Article IX.

The Trustee shall have all the rights and duties of such an office. He shall follow the principle that the Foundation's funds are to be invested in gilt-edged securities.

Article X.

The Administrator of the Foundation is empowered to decide upon its dissolution with the consent of the Darling Committee.

He is also empowered to decide, with the consent of that Committee, how and to whom the assets are to be disposed of in the event of the Foundation being dissolved.

Article XI.

The Founder reserves the right to amend and add to the provisions of the present deed with the consent of the Darling Committee.

Article XII.

Notwithstanding the fact that this Foundation serves the same ends as the League of Nations, the latter, which is not a party hereto, assumes no general responsibility whatever in respect of the establishment or operation of the Foundation.

Appendix III.

FOUNDATION FOR THE AWARD OF A DARLING MEDAL AND PRIZE. STATUTES.

Article 1.

A Committee styled the " Darling Foundation Committee " shall be formed, and shall be composed of the following members:

The President of the Health Committee of the League of Nations as such;
The three Vice-Presidents of the Health Committee of the League of Nations as such;
The Chairman of the Malaria Commission of the Health Committee of the League of Nations as such.

The Medical Director of the Health Section of the League of Nations as such shall act as Secretary to the Committee.

Article 2.

The Darling Foundation Committee shall, in accordance with the Deed of Foundation and with the present Statutes, award a prize, to be known as the " Darling Foundation Prize ", to the author of an original work on the pathology, ætiology or prophylaxis of malaria.

Article 3.

The Darling Foundation Prize shall consist of a bronze medal and a fixed sum of 1,000 Swiss francs. It shall be awarded whenever the accumulated interest on the Foundation's capital amounts to a net sum of not less than 1,000 Swiss francs, after deducting the total cost of striking the medal.

However, the interest will in the first place be appropriated to the creation of the Foundation, including the manufacture of steel dies for the bronze medal.

Article 4.

The Administrator shall ascertain twice yearly from the Trustee of the Foundation's funds the total amount of the interest accumulated since the last award of the Darling Prize. When the interest amounts to a sufficient sum for a prize to be awarded in accordance with the provisions of Article 3, the Administrator shall inform the members of the Darling Committee and of the Malaria Commission.

Article 5.

Any member of the Health Committee or of the Malaria Commission, and any national Department of Health, may put forward the name of any person whose candidature is thought worthy of examination with a view to the award of the prize; the nomination must be accompanied by a written statement of the reasons on which it is based. The same candidature may be submitted on several occasions if unsuccessful.

The candidature must be in respect of a work either published within five years preceding the award of the prize or submitted in manuscript to the Health Organisation of the League of Nations.

No condition is made as to the age, sex, profession or nationality of the author.

Article 6.

When informing the members of the Darling Committee and of the Malaria Commission, in accordance with the provisions of Article 4, that the accumulated interest on the Foundation's capital enables the Darling Prize to be awarded, the Administrator shall likewise forward them copies of all nominations received by him since the last award. He shall then be at liberty to regard the list as closed.

Article 7.

At its first meeting following the communication from the Administrator, the Malaria Commission shall discuss in private the relative merits of the candidates nominated, and its Chairman shall notify the Darling Foundation Committee, by letter addressed to the Secretary of the Committee, of the results of these discussions, whatever they may be.

Article 8.

The Darling Foundation Committee shall have power to decide finally, by a majority of the members present, to what candidate the medal and prize are to be awarded. Three members at least must be present.

Article 9.

On the proposal of one of its members or of the Malaria Commission, the Health Committee may decide to revise the present Statutes. Such decision shall not, however, be valid unless taken by a majority of all the members of the Committee.

Article 10.

The Administrator of the Darling Foundation shall be responsible:

For the execution of the decisions taken by the Darling Foundation Committee within the limits of its powers as defined in these Statutes; and

For the observance of these Statutes and generally for the operation of the Darling Foundation as limited by the Deed of Foundation and by these Statutes.

C.193.1928.III.
(C.H.722.)

ANNEX 12.

REPORT OF THE HEALTH COMMITTEE ON THE WORK OF ITS TWELFTH SESSION

(Geneva, April 30th to May 5th, 1928).

The Health Committee met at Geneva on Monday, April 30th, 1928, at 11 a.m., the list of those attending being as follows:

Dr. Th. MADSEN, President, Director of the State Serum Institute, Copenhagen.

M. O. VELGHE, Vice-President (*ex officio*), President of the Comité permanent de l'Office international d'hygiène publique, Secretary-General of the Ministry of the Interior and of Health, Brussels.

Dr. H. CARRIÈRE, Vice-President, Director of the Swiss Federal Public Health Service, Berne (attended the meetings from May 2nd).

Professor Léon BERNARD, Director of the Institute of Hygiene of the Faculty of Medicine of Paris, Professor of Tuberculosis at the Faculty of Medicine of Paris and Technical Health Adviser at the Ministry of Health (attended the meetings from May 4th).

Sir George BUCHANAN, Senior Medical Officer, Ministry of Health, London.

Dr. Carlos CHAGAS, Director of the Oswaldo Cruz Institute, Rio de Janeiro.

Dr. Witold CHODZKO, former Polish Minister of Health; Director of the State School of Hygiene, Warsaw.

Surgeon-General H. S. CUMMING, Chief of the United States Public Health Service, Washington, D.C.

Colonel J. D. GRAHAM, Public Health Commissioner with the Government of India, Delhi.

Dr. C. HAMEL, President of the Reichsgesundheitsamt, Berlin.

Dr. N. M. J. JITTA, President of the Public Health Council of the Netherlands, The Hague.

Professor Ricardo JORGE, Director-General of Public Health, Lisbon.

Dr. A. LUTRARIO, former Director-General of Public Health, Ministry of the Interior, Rome.

Professor NAGAYO, Government Institute for Infectious Diseases, Tokio.

Professor B. NOCHT, Rector of the University and Director of the Institute of Tropical Diseases, Hamburg.

Professor D. OTTOLENGHI, Professor of Hygiene at the Royal University of Bologna.

Dr. M. TSURUMI, Representative of the Public Health Service of Japan, Paris.

Dr. C. E. A. WINSLOW, Professor of Public Health, Yale School of Medicine; Member, Public Health Council, State of Connecticut.

Dr. L. RAJCHMAN, Medical Director, Secretary of the Committee.

At the request of Doctor CUMPSTON, who was detained, Dr. C. L. PARK, Chief Medical Officer, Australia House, London, attended the session.

The following also attended:

Dr. Ph. COPANARIS, Director of Public Health, Ministry of Health and Social Welfare, Athens.

Dr. J. SCOSERIA, President of the Health Council, Montevideo.

The following agenda was considered by the Health Committee:

1. Decisions of the Council of the League of Nations:

(*a*) Report by M. Adatci, approved by the Council on December 7th, 1927;
(*b*) Minutes of the Meeting of the Council held on December 7th, 1927;
(*c*) Development of the Work of the Technical Organisations in Latin America;
(*d*) Increase of the Grant from the Rockefeller Foundation for Interchanges during 1928

2. Report of the President on his Mission to India.

3. Report of the President on the Session of the Permanent Standards Commission at Frankfort-on-Main.

4. Report and Resolutions of the Third Session of the Advisory Council of the Eastern Bureau, held at Delhi from December 26th to 29th, 1927.

5. Collaboration with Latin America:

(*a*) International Centre for the Study of Leprosy in Brazil;
(*b*) International School of Public Health at Rio de Janeiro;
(*c*) International Centre of Puericulture at Buenos Aires.

6. Report of the Cancer Commission.

7. Report of the Smallpox and Vaccination Commission.

8. Report of the Chairman of the Opium Commission concerning the Report by the Office international d'hygiène publique on the subject of Preparations coming under the Provisions of Article 8 of the Opium Convention of 1925.

9. Budgetary Estimates for the Financial Year 1929; Report of the Budget Sub-Committee

10. Report of the Medical Director on the Work of the Health Organisation since the Session of the Health Committee held in October 1927.

11. Miscellaneous:

(*a*) Invitations to Congresses and Conferences.
(*b*) Miscellaneous.

* * *

The Health Committee also decided to consider the proposal of Dr. N. M. J. Jitta in regard to X-rays and a letter from the Belgian Government to the Secretary-General of the League of Nations on the subject of yellow fever in the estuary of the Congo.

The Committee adopted resolutions on the various subjects mentioned above, but decided to consider at a subsequent session the report of the Opium Commission on the suggestion of the Chairman of that Commission.

The text of the resolutions adopted by the Health Committee was as follows:

1.

Report of the Permanent Commission on the Standardisation of Sera, Serological Reactions and Biological Products.

The Chairman of the Commission presented his report (document C.H.717) on the session held at Frankfort (April 25th to 28th, 1928), and the following resolution was adopted:

" The Health Committee:

" Adopts the report of the Chairman of the Permanent Standards Commission on the results of the session held at the Frankfort Institute of Experimental Therapy on April 25th, 26th, 27th and 28th, 1928;

" Associates itself with the expressions of appreciation contained in the report in regard to the facilities and hospitality so generously offered by Professor Kolle and the interested authorities of the Federal and Prussian Administrations;

" Recommends to the Council of the League that the report and recommendations of the Frankfort session be now communicated to the various Governments and to the competent authorities of these Governments, together with all the relevant documentation, in order that the necessary official effect may be given to this work."

2.

Report of the Cancer Commission.

The Health Committee considered the report of the Cancer Commission on the work of the session held at Geneva on April 27th and 28th, 1928.

The following resolution was adopted:

" The Health Committee:

" Accepts the recommendations of the Cancer Commission in the report which it has submitted at the present session (document C.H. 712), including:

" (1) The formation of two Expert Sub-Commissions for the study respectively of:

" (*a*) Occupational cancer, and

" (*b*) Problems relating to the radiological treatment of cancer;

" (2) That Dr. Hamel and Professor Nagayo should be added to the Cancer Commission."

3.

Report of the Smallpox and Vaccination Commission.

Having considered the report of the Smallpox and Vaccination Commission on the work of the session held at Geneva on April 25th and 26th, the Health Committee adopted the following resolution:

" The Health Committee accepts the recommendations of the Smallpox and Vaccination Commission in the report submitted at the present session (document C.H. 707), notably that the Commission should:

" (1) Continue, by the aid of the Epidemiological Intelligence Service, to obtain information on the incidence and character of the smallpox now prevailing in Europe and certain countries outside Europe with the view to the preparation, in due course, of a special report on this subject;

" (2) Review, at the earliest possible date, the evidence regarding the extent, characteristics and causation of the conditions of the central nervous system which have been termed post-vaccinal encephalitis. For this purpose, efforts should be made to hold a meeting in the month of August at which the Commission will have the advice and assistance of its experts;

" (3) Make further recommendations to the Health Committee, after consultation with the experts, regarding outstanding items of the programme of the Hague Conference, 1926, such as are indicated in the memorandum annexed to their report (document C.H. 707)."

4.

The Eastern Bureau of the Health Organisation at Singapore.

The Report on the Work of the Third Session of the Advisory Council, held at New Delhi from December 26th to 29th, 1927, and the Annual Report of the Eastern Bureau for 1927 (document C.H. 705) were referred to a Commission, which presented the following resolutions, these being approved by the Health Committee:

" A. *Growth of the Eastern Bureau.*

" The Health Committee:

" Having considered the Annual Report for 1927 of the Eastern Bureau and the resolutions adopted at the third session of the Advisory Council, held at New Delhi from December 26th to 29th, 1927:

" Desires to place on record its appreciation of the continual growth of the Bureau's activities, and its thanks to Colonel Graham, the Chairman, and members of the Advisory Council for all the work they have done on behalf of the Health Organisation, and

" Expresses its grateful appreciation to those Administrations which have contributed financially to the upkeep of the Bureau, and to those which have generously provided wireless facilities for the diffusion of epidemiological information emanating from the Bureau, thus contributing largely to the success of this work."

"B. *Programme of Co-ordinated Research.*

"The Health Committee:

"(1) Approves the resolutions adopted by the Advisory Council of the Eastern Bureau concerning the lines along which co-ordinated research should be carried out and attaches special importance to the recommendations dealing with:

"(*a*) The collection of detailed information regarding the quarantine stations of the East and their value;
"(*b*) The continuation of the enquiry into the efficiency of oral vaccination; and
"(*c*) The investigation of rat and flea conditions in ports.

"(2) It further recommends that the Bureau should collect as full and detailed statistical information as is available concerning the seasonal prevalence of cholera and plague in all countries within the sphere of the Bureau's activity."

"C. *Intelligence regarding Infected Ships.*

"The Health Committee:

"Notes with satisfaction the progress that has been made with regard to the development of intelligence regarding infected ships and that this work has proved of great value to many Administrations.

"It endorses the hope expressed by the Advisory Council of the Eastern Bureau that those Administrations which are not now reporting such information telegraphically should assist in the development of this important function of the Bureau."

"D. *Constitution and Articles of Procedure.*

"The Health Committee,

"Having studied the modifications suggested by the Advisory Council in the draft constitution and articles of procedure which were communicated to it,

"Proposes the following new draft of Article 13:

"'The present constitution and the present articles of procedure may, after consultation with the Advisory Council, be amended during any session by the Health Committee of the League of Nations by a majority of members present';

"Requests the Council to adopt this proposal as amended above."

"E. *Budget.*

"The Health Committee,

"Having studied the proposed budget of the Eastern Bureau for 1929 and the further estimates relating thereto presented by the Advisory Council,

"Takes note of the introduction of a new credit for the carrying-out of the functions entrusted to the Bureau by agreement with the Permanent Committee of the Office international d'hygiene publique under the terms of the International Sanitary Convention of 1926; and

"Considers that the amount requested is necessary for the proper functioning of the Eastern Bureau and for carrying out the tasks with which it is entrusted, and recommends the adoption of the budget."

5.

Plague.

After having considered a memorandum on plague (document C. H. 716) prepared by Dr. Fabian Hirst, the Health Committee adopted the following resolution:

"The Health Committee:

"(*a*) Has taken note of a memorandum by Dr. Fabian Hirst on the lines of future research into the parasitology of plague;

"(*b*) Recommends that the memorandum be communicated to the Expert Plague Commission through the Advisory Council of the Eastern Bureau; and

"(*c*) Requests the Medical Director, after necessary expert consultation, to prepare a scheme for consideration by the Health Committee at its next session."

6.

Study of Ship Fumigation.

The Health Committee referred to a Sub-Committee the proposal contained in the Medical Director's Report (document C.H. 690) and adopted the following resolution presented by the Chairman of that Sub-Committee:

" The Health Committee, having received the report of the Sub-Committee on the fumigation of ships:

" (*a*) Takes note with gratitude of the offer of co-operation made by Surgeon-General H. S. Cumming;

" (*b*) Authorises the Sub-Committee to make further recommendations to be submitted to the Permanent Committee of the Office international d'hygiène publique in this matter, as well as on the measures which may seem desirable and practicable to give effect to the proposals contained in the Medical Director's Report;

" (*c*) The Medical Director, in consultation with the Bureau of the Committee, is authorised, if necessary, to give effect to conclusions adopted by the Sub-Committee, in the interval before the next session."

7.

The President's Mission to India.

The President of the Health Committee described the results of his visit to India, to attend the third session of the Advisory Council, the Congress of the Far-Eastern Association of Tropical Medicine, and to participate in the interchange in India. The following resolution was adopted:

" The Health Committee:

" Desires to place on record its great appreciation of the welcome extended to its President, Dr. Madsen, by the Government of India, the Provincial Governments, Indian States, the President and Officers of the Far-Eastern Association of Tropical Medicine, and the numerous officials of the Central and Provincial Administrations, who contributed so largely to the success of his tour; and

" Requests that an expression of its thanks be transmitted to all concerned."

8.

Collaboration with Latin America.

Documents relating to collaboration of the Health Organisation of the League of Nations with Latin America were considered by the Health Committee, which adopted the following resolutions on this subject:

A.

" The Health Committee:

" Having considered the observations contained in the Minute of the meeting of the Council of the League of Nations held on March 5th, 1928 (document C. /49th session/P.V. 1 [1]):

" Requests the Medical Director to examine the suggestions offered in regard to collaboration with Latin-American countries and to present a report on the subject at the next session of the Committee."

B.

" The Health Committee:

" Having considered the reply of the Federal Government of the United States of Brazil (document C.H.710) to the letter by which the Secretary-General has communicated to that Government the Council's resolution regarding an arrangement to be examined by the Secretary-General, in consultation with the Governments of Argentine and Brazil, whereby the schools and study centres to be organised in these two countries may be placed under the auspices of the League of Nations:

" Considers it is not called upon at this session to consider the plan relating to the International School of Public Hygiene at Rio;

" Recommends to the Council of the League of Nations to adopt the detailed resolution (No. 9) concerning the study of leprosy and that the high appreciation of the Committee should be expressed to Mr. Guinle for the generous aid he is giving to these studies."

" The Health Committee:

" Having considered the communication of the Ministry of Foreign Affairs of the French Republic to the Secretary-General of the League of Nations, as well as the letter of the President of the International Institute of Statistics, forwarding a resolution of its Cairo Conference:

" Recommends the adoption of the procedure proposed by the French Government to assure collaboration between the International Institute of Statistics and the Health Organisation of the League of Nations in the preparatory work for the forthcoming revision of the *International List of Causes of Death*.

" Requests the Medical Director to communicate this resolution to an early meeting of the Commission of Expert Statisticians and to take action for the purposes indicated. "

14.

Report of the Medical Director.

The following resolution was adopted on the Report of the Medical Director:

" The Health Committee adopts the Report of the Medical Director on the work accomplished since the eleventh session (October 1927-May 1928). "

15.

Budget Estimates of the Health Organisation for 1929.

" The Health Committee approves the report of the Budget Commission on the budget estimates for 1929. The total of these estimates amounts to 998,853 francs, as compared with 992,638 francs for 1928. "

16.

Dangers resulting from the Use of X-Rays.

The following resolution was adopted in this regard:

" The Health Committee:

" Having taken note of a memorandum (document C.H.714) (drawn up by Dr. Jitta in collaboration with Dr. Van der Plaats, Radiologist at Utrecht) concerning the dangers which may result from the use of X-rays:

" Requests the Medical Director to ascertain the existing laws or regulations on this subject in different countries and other information necessary to ascertain what kind of action has been, or should be taken in order to obviate the dangers referred to. "

11.

Tuberculosis among Greek Refugees.

After considering the reports of Dr. Copanaris, Director of the Public Health Service in Greece (document C.H.715), and Professor Léon Bernard (document C.H.723), the Health Committee adopted the following resolution:

" The Health Committee:

" Having taken note of the proposal formulated by the Finance Committee and approved by the Council with regard to the expediency of collaboration between the Health Organisation of the League of Nations and the Greek Authorities and with the Greek Refugees Settlement Commission for the campaign against the ravages caused amongst these refugees by tuberculosis;

" Having also taken note of a memorandum presented by Dr. Copanaris and of a report by Professor Léon Bernard in which an anti-tuberculosis programme is outlined for Greece; and

" Realising the necessity of organising in Greece an efficient campaign against tuberculosis, and desirous of supporting it:

" Places at the disposal of the Greek Administration the services of the Health Organisation of the League of Nations in order to help to carry out a practical programme and an efficient campaign against tuberculosis;

" Requests the Medical Director to study, in collaboration with the Director of the Public Health Service in Greece, a detailed plan of action conforming to the principles laid down in the report by Professor Léon Bernard, of which the first steps can be rapidly realised; and

" Considers that this action could be usefully assisted by the collaboration of the Greek Refugee Settlement Commission, notably in setting up villages for the reception of tuberculous cases and their families, along the lines of analogous installations already set up in other countries."

12.

Nomination of Advisers to the Health Administration of the Frontiers in Turkey.

The Health Committee adopted the following resolution in this regard:

" In view of the letter of the Turkish Government (document C.H.719) dated May 1st, 1928, addressed to the Secretary-General of the League of Nations, in regard to the designation of candidates to enable the Turkish Government to select from the list of candidates thus designated three medical officers as advisers to the Health Administration of the frontiers, as provided by the Declaration of July 24th, 1923, annexed to the Treaty of Lausanne:

" The Health Committee:

" Decides to suggest to the Permanent Committee of the Office international d'hygiène publique the joint appointment of a Sub-Committee of ten to make these designations;

" Designates the following members of the Health Committee to sit on this Sub-Committee: Dr. Madsen, M. Velghe, Dr. Carrière, Dr. Chodzko and Professor Nagayo. "

13.

International List of Causes of Death.

The Health Committee adopted the following resolution on the basis of suggestions contained in the communication of the French Minister for Foreign Affairs to the Secretary-General of the League of Nations (document C.H./E.S./38) and the letter of the President of the International Institute of Statistics (document C.H./E.S./65):

9.

Leprosy.

In view of the information placed at its disposal by its President and various members in regard to leprosy, the Health Committee adopted the following resolution:

" The Health Committee:

" Recognising the international importance of the leprosy problem in view of: (1) the report of the President on his visits to Latin America and the Far East; (2) the reports presented by Professor Carlos Chagas since April 1926 (document C.H. 466); and (3) the communications of the members from Japan and India:

" Decides to give at once, in its programme of work, a place to the study of leprosy suitable to its importance and to entrust to Professor Carlos Chagas, Surgeon-General Cumming, Colonel Graham and Professor Nagayo the preparation of a plan of international investigation of leprosy, requesting them to consult those experts whose opinion it would be desirable to obtain;

" Requests the Medical Director to get into touch with the public health services which have made or may make the request, in order to discover the best method of organising an international enquiry.

" The Committee is pleased to note that the Federal Government of the United States of Brazil offers special facilities for the study of leprosy, and also learns with much satisfaction that, in addition to the funds which will be devoted to these studies by the Federal Government, Mr. Guinle, founder of various sanitary undertakings in Brazil, offers an annual contribution equivalent to $10,000.

" The Committee is ready, within the limits of its possibilities, to designate one or more experts to collaborate in the study of leprosy with the public health services which request such collaboration, utilising particularly the facilities offered by the Federal Government of Brazil; and

" Recommends that the Council be requested to ask the public health services of the interested countries what they might be ready to contribute to the studies on leprosy in the way of facilities for investigation and financial support on the basis that the League is prepared to participate in the expenses occasioned by the nomination, travelling expenses and work of the experts designated by the Health Committee."

10.

Yellow Fever.

The Health Committee considered the communication of the Belgian Government (document C.H.711) in regard to measures necessary to prevent the spread of yellow fever by way of the estuary of the Congo.

The following resolution was adopted:

" The Health Committee:

" Takes note of the communication made by the Belgian Government to the League of Nations in the letter of His Excellency M. Hymans, Minister for Foreign Affairs, to the Secretary-General, of April 25th, 1928, on the subject of yellow fever in the estuary of the Congo;

" Understands that this communication has been forwarded to the other Governments to which it refers; and

" Will be at the disposal of those Governments at any time for the consideration of any action in the matter which they may agree to recommend to the Health Organisation of the League of Nations."

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ABBREVIATIONS

Com. — Committee.
Govt. — Government.
Int. — International.
Memo. — Memorandum.
Prof. — Professor.
Sec.-Gen. — Secretary-General.

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